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Self-declaration by Estonia as a country free from African swine fever in domestic and captive wild pigs

Declaration sent to the OIE on 19th of November 2019 by Dr Olev Kalda, Deputy Director of Veterinary and Food Board, OIE Delegate for Estonia.

I. BACKGROUND

No outbreak of African swine fever (ASF) has been identified in Estonia until 2014.

ASF was first detected in Estonian wild boar population on 2nd of September 2014. One wild boar piglet was found dead in South-Part of Estonia, in Valga district, 6 km from Latvian border. The ASF case was confirmed by the National Veterinary and Food Laboratory and by the EU reference laboratory for ASF. ASF virus, detected in Estonia, belongs to genotype II that is currently circulating in the Eastern European countries. The possible source of infection was movement of infected wild boar from infected area in Latvia. After the first ASF wild boar case, the disease started to spread from the southern part of Estonia to the middle part and by 2017 ASF was spread to the whole territory of Estonia except the island Hiiumaa which is still ASF free.

The first domestic pig farm was affected on 18th of July 2015. That was a backyard farm with one pig in the southern part of Estonia close to the area where the first ASF positive wild boar was found. The possible source of the infection was human behaviour and ASF virus circulation in the wild boar population close to the farm. From 2015 until 2017, a total of 27 domestic pig ASF outbreaks were detected in Estonia. The last ASF outbreak in domestic pigs was on 19th of September 2017. There have been no ASF outbreaks in domestic pigs during the last two years.

II. GENERAL INFORMATION

Veterinary and Food Board, which is under Ministry of Rural Affairs, is responsible for the domestic pig management. Environmental Ministry is responsible for wild fauna management. Estonia, as a European Union Member State, applies European legislation.

National legislation sets the requirements for surveillance and control of ASF in domestic pigs and wild boar. The list of the relevant national legislation is provided in annex 1.

Our national reference laboratory for the ASF is Veterinary and Food Laboratory (VFL) which is accredited according to the EVS- EN ISO/IEC 17025. VFL has been authorized to execute the function of the National Reference Laboratory in different fields of food and feed analyses and diagnostic of animal diseases. Communication with European Union Reference Laboratories is also a responsibility of the VFL.

The management of wild boar is carried out in cooperation with hunters' organisation and Environmental Board. The most of the 15 000 Estonian hunters are members of the Estonian Hunters Society that manages the game and hunt on about 85% of Estonia's hunting territory.

III. DISEASE NOTIFICATION

ASF is a notifiable disease in Estonia since 01.01.2000 according to the Decree of Ministry of Rural Affairs No 34 from 25.11.1999, the list of notifiable and registration infectious animal diseases including ASF (List of the national legislation 1.1.3¹).

Law enforcement authorities, authorised veterinarians, veterinarians, veterinary laboratories and other persons must promptly notify the Veterinary and Food Board of suspicion or diagnosis of an infectious animal disease (in compliance with point 5. of Articles 15.1.3. and 15.1.29. of the OIE *Terrestrial Animal Health Code* (the *Terrestrial Code*) subject to notification (Law of Ministry of Rural Affairs, Infectious Animal Disease Control Act, §38 (1), (3) and (4)) (List of the national legislation 1.1.2).

IV. REGISTRATION AND IDENTIFICATION

According to the Infectious Animal Disease Control Act (List of the national legislation 1.2.1), all holdings with pigs must be registered in Estonian Agricultural Register and Information Board (ARIB) (in compliance with point 3. of Article 15.1.3. of the OIE *Terrestrial Code*). ARIB is a government agency in the subordination of the Ministry of Rural Affairs of the Republic of Estonia. It is the administrator of national agricultural registers (the register of farm animals and the register of agricultural support and land parcels) and other databases, as well as a processor and analyser of the data contained in such registers and databases.

According to the Regulation of Minister of Agriculture No 128 from 21.12.2009 the pigs must be marked in following occasions (List of the national legislation 1.2.2):

1. when pig is moved from one holding to another - ear tag or tattoo with the number of the holding where the pig was born;
2. when pig is taken to slaughterhouse - tattoo with the number of the holding on must be placed;
3. pigs are identified in line with Council Directive 2008/71/EC ²of 15 July 2008 on the identification and registration of pigs;
4. when pigs are taken to slaughterhouse animals must be accompanied only with food chain information in case all animal requirements are followed, and the farm is not situated in the restricted area. If the animals come from the restricted area (zone II or zone III according to the regulation 2014/709) certificate 9T (pigs to slaughterhouse) or certificate 7E (live pig movement to another farm for fattening, keeping or breeding) must be accompanied with the animals;

¹ [Approval of the list of the infectious animal diseases](#)

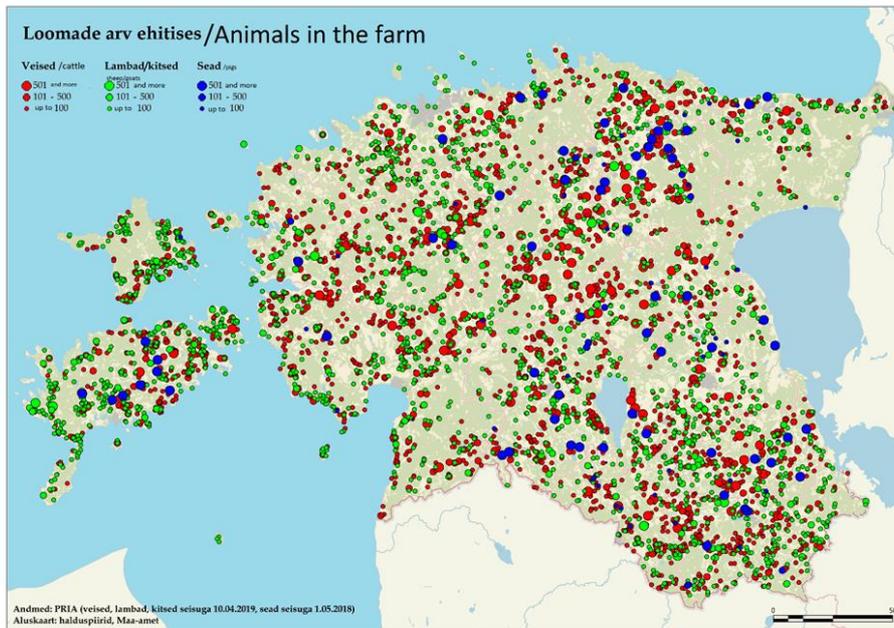
² <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32008L0071&from=EN>

5. all pig farms must inform their pigs number four times per year to the ARIB according to the Regulation of Minister of Agriculture No 128 from 21.12.2009 §7 (8) (List of the national legislation 1.2.2).

In case of captive wild pigs, the same requirements will apply. However, Estonia do not have currently any captive wild pig farms.

Estonia has a population of 313,663 pigs distributed into the 120 farms (as of 30.09.2019).

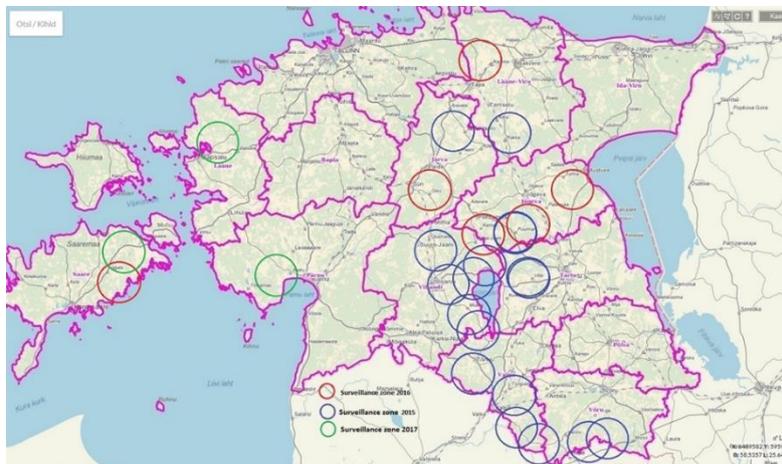
Figure 1. Registered farms (with blue dots are registered pig farms as of 01.05.2018)



V. HISTORY OF ERADICATION OF ASF IN ESTONIA

Estonia had been free (historically) from ASF until September 2014 as the first ASF wild boar case was detected. In July 2015, the first ASF outbreaks in domestic pig were reported in the South part of Estonia and disease was spread to the middle and central part and to the west part of Estonia (Figure 2).

Figure 2. Surveillance zones of ASF outbreaks in 2015-2017



From 2015 until 2017, a total of 27 ASF outbreaks in domestic pigs have been detected in Estonia. The last ASF outbreak in domestic pigs was confirmed on 19th of September 2017. The main ASF outbreaks occurrence period was summertime from July until September (Figure3). ASF outbreaks have occurred in the different size of farms: in the production (12 farms), middle size (5 farms) and also in the backyard (10 farms) farms (Table 1).

Figure 3. Seasonality of ASF outbreaks in domestic pigs in Estonia from June 2015 to September 2017

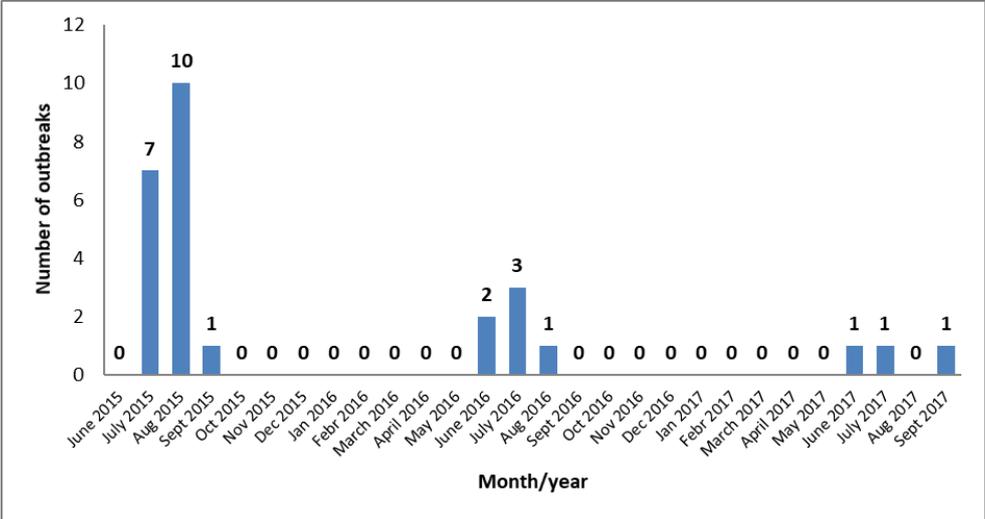
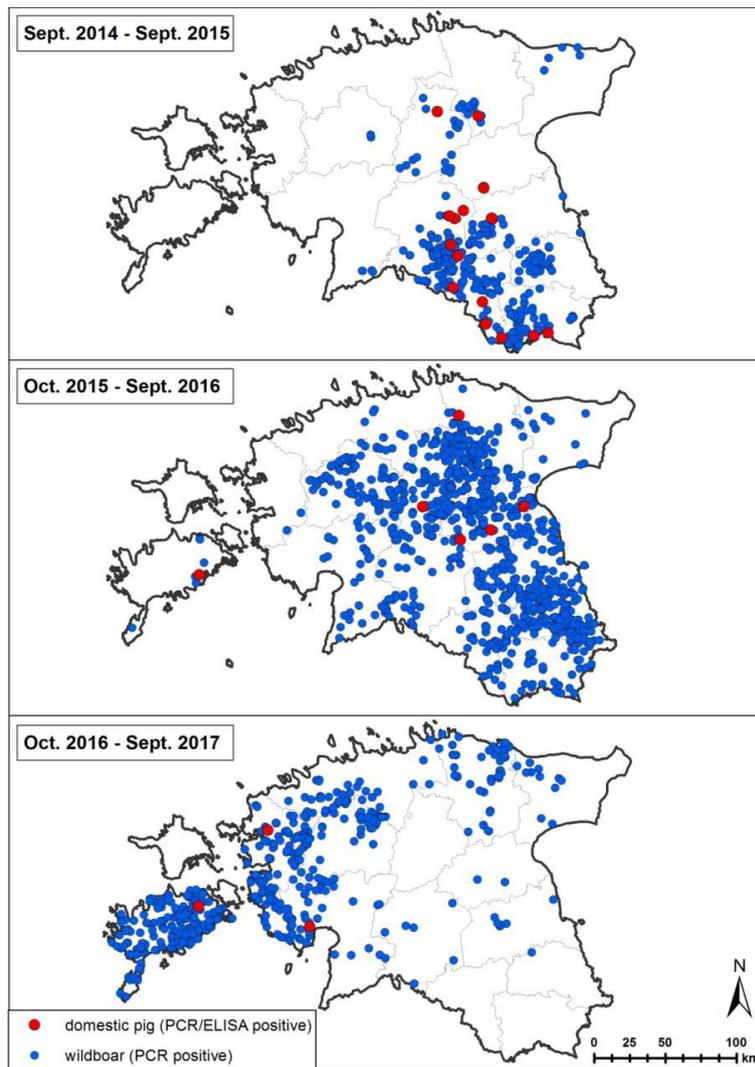


Table 1. Occurrence of ASF outbreaks in Estonia from June 2015 to September 2017

Year	2014	2015	2016	2017
Number of farms	920	450	205	143
Number of ASF outbreaks	0	18	6	3
Farm size of ASF outbreaks				
• 1-15		6	4	0
• 100-500		5	0	0
• 1100-6500		7	2	3
Total number of destroyed pigs		22 264	6 812	13 507

ASF domestic pig outbreaks were clearly connected to the positive ASF wild boar findings (Figure 4). Most of the domestic pig outbreaks (16 out of 27) were less than 5 km away from the ASF positive wild boar finding (found dead wild boar). The presence of ASF virus in wild boar populations was the main risk factor for domestic pig farms to become infected.

Figure 4. Correlation between the locations of ASF outbreaks in domestic pigs and wild boar cases in 2015-2017



VI. THE STATE PROGRAMME OF SURVEILLANCE AND MONITORING OF INFECTIOUS ANIMAL DISEASES

In the state programme of surveillance and monitoring of infectious animal diseases, a number of control measures for infectious animal diseases and animal species have been defined to monitor the general situation of infectious diseases in Estonia. The program for next year is compiled based on the number of animals and the prognoses presented by the counties. Domestic pigs and wild boar surveillance programs are part of the state programme of surveillance and monitoring of infectious animal diseases.

VII. DOMESTIC PIGS SURVEILLANCE PROGRAMME

Since 2012, the National Infectious Animal Disease Control Programme (List of national legislation 1.4.2) also includes ASF surveillance in domestic pigs.

In 2012 and 2013, breeding herds were sampled serologically for ASF and all samples tested negative.

In 2014, samples were taken from all herds with at least 10 sows or 100 fattening pigs, all results were negative for ASF.

In 2015, surveillance strategy included:

- a) Testing of dead pigs (in Part III according to the Commission Implementing Decision no 2014/709),
- b) Testing of sick pigs for which infection with ASF cannot be excluded, in case of suspicion of the occurrence of ASF,
- c) Pre-movement testing.

In 2016 - 2017 surveillance strategy covers:

- a) testing of fresh pig carcasses found in a herd and pigs suspected to have ASF,
- b) pig herds in the areas listed in Part I, II and III of Annex I of Commission Implementing Decision No. 2014/709³ are tested twice a year. In case of ASF suspicion, a sample is collected for virological (PCR) testing,
- c) pig herds located in the areas listed in Part II and III of Annex I of Commission Implementing Decision No. 2014/709 must be tested by PCR if live pigs are intended to be moved within or out of the area (including testing of animals that are transported into a slaughterhouse).

In 2018 – 2019 surveillance strategy covers:

- a) testing of pig carcasses found in the herd – first two fresh pig carcasses (over 2 months of age) are tested each week,
- b) testing of pigs suspected of being infected with the ASF (both fallen and alive),
- c) swine farms in the areas listed in Parts I, II and III of the Annex to the Implementing Decision 2014/709 of the European Commission are investigated 2–4 times a year. In determining the frequency of supervision, the production objective, type of production, frequency and nature of movements of the swine farm, the level of biosecurity measures applied on the farm and other factors affecting the level of risk in the farm are considered,
- d) tests for ASF in swine herds are carried out in accordance with the control and sampling methods laid down in Annex IV, Chapter A of the Commission Decision 2003/422/EC⁴,
- e) blood samples from pigs over 60 days of age are taken for virological (PCR) testing for the ASF virus. The sampling shall be based on the principles described in Section 3.3 of the Code of Practice for the control of the ASF. Samples are taken in the herd from all units, depending on the number of pigs kept there, so that 10% serum reactivity is detectable with a 95% probability.

Pigs from the following target groups should be sampled: sick or anorectic pigs; recently purchased pigs from confirmed outbreak or suspected outbreak areas; pigs kept in subunits recently visited by unauthorized persons; pigs that have been serologically tested but the results of tests do not exclude the presence of ASF, and pigs exposed to them; pigs that have recently been ill and healed.

³ <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014D0709&from=EN>

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32003D0422&from=EN>

Table 2. ASF tests and outbreaks in domestic pigs 2012 – 2019 (as of 31.10)

Year	Tested domestic pigs	Tested dead domestic pigs	ASF outbreaks
2012	709	-	0
2013	756	-	0
2014	2 039	-	0
2015	6 450	218	18
2016	8 728	79	6
2017	11 128	182	3
2018	6 989	1875	0
2019 (as of 31.10)	5 430	1757	0
Total	42 229	4 111	27

When ASF occurred in the domestic pig population zones, restrictions were settled on in accordance with the Council Directive 2002/60⁵ of the EU legislation and with the national legislation.

Depopulation of all domestic pigs was carried out in all farms where ASF was detected. All activities were carried out under the Veterinary and Food Board supervision. All farm buildings, equipment etc. were cleaned and disinfected.

More details on the biosecurity measures and requirements are provided in annex 2.

According to the European Food Safety Authority's Scientific Opinion on the Role of Tick Vectors in the Epidemiology of Crimean-Congo Haemorrhagic Fever and African Swine Fever in Eurasia (published on 10 August 2010)⁶, there is no evidence that *Ornithodoros* ticks are spread in Estonia and our neighbouring countries.

VIII. WILD BOAR SURVEILLANCE PROGRAMME

Due to ASF and intense hunting, wild boar population has been decreasing rapidly for the last 4 years. The only ASF free area is island Hiiumaa. While in 2015, according to hunters' estimation, wild boar population before mating season was 20,600, then in 2019 the estimation was 2,870 wild boar (decreased 7 times). More precise changes in wild boar population for the period 2015-2018 can be found in annex 3.

For animal disease prevention and surveillance National Infectious Animal Disease Control Programme is drawn up each year by Veterinary and Food Board (in compliance with point 6. of Article 15.1.3. of the *Terrestrial Code*). In that state programme (List of national legislation 1.4.2) of surveillance and monitoring of infectious animal diseases, the volumes of control measures for infectious animal diseases and animal species have been defined to monitor the general situation of infectious diseases in Estonia. All the costs are covered by the state budget.

There is no presence of the vector, *Ornithodoros* genus in Estonia (compliance with Article 15.1.33. of the *Terrestrial Code*).

Since 2012 that National Infectious Animal Disease Control Programme also comprises ASF surveillance in wild boar.

5 <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32002L0060&from=GA>
6 <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2010.1703>

In 2016 sampling scheme:

In free areas- 2% of the hunted wild boar, all dead wild boar

In areas listed in Part I – 2% of the hunted wild boar, all wild boar whose carcass is intended to be taken out from the area, all dead wild boar

In areas listed in Part II and Part III (regulation 2014/709) – all hunted and dead wild boar.

We tested 15978 wild boar, from which 1572 were ASF positive (Table 3).

In 2017 sampling scheme:

In areas listed in Part I – 30% of the hunted wild boar, all wild boar whose carcass is intended to be taken out from the area, all dead wild boar

In areas listed in Part II and Part III (regulation 2014/709) – all hunted and dead wild boar.

We tested 9574 wild boar, from which 867 were ASF positive (Table 3).

In 2018 sampling scheme:

In areas listed in Part I – 50% of the hunted wild boar, all wild boar whose carcass is intended to be taken out from the area, all dead wild boar

In areas listed in Part II and Part III (regulation 2014/709) – all hunted and dead wild boar.

We tested 4961 wild boar, from which 281 were ASF positive (Table 3).

In 2019 sampling scheme:

In areas listed in Part I – 50% of the hunted wild boar, all wild boar whose carcass is intended to be taken out from the area, all dead wild boar

In areas listed in Part II and Part III (regulation 2014/709) – all hunted and dead wild boar.

As of 30.09.2019, we have tested 3193 wild boar, from which 70 were ASF positive (Table 3).

Table 3. Wild boar ASF tests 2014 – 2019 (as of 31.10.2019)

	2014		2015		2016		2017		2018		2019 (31.10)	
	No of animals tested	No ASF positive/prevalence	No of animals tested	No ASF positive/prevalence	No of animals tested	No ASF positive/prevalence	No of animals tested	No ASF positive/prevalence	No of animals tested	No ASF positive/prevalence	No of animals tested	No ASF positive/prevalence
Hunted wild boars	879	9 (1%)	8617	680 (8%)	14976	749 (5%)	9161	565 (6,2%)	4879	263 (5,4%)	3570	76 (2,1%)
Found dead wild boars	175	64 (37%)	928	408 (44%)	987	818 (83%)	372	299 (80,4%)	52	17 (33%)	23	2 (8,7%)
Culled/car accident	2	0	17	7 (41%)	15	5 (33)	41	3 (7,3%)	30	1 (3,3%)	25	0
Total	1056	73 (7%)	9562	1095 (11,5%)	15978	1572 (10%)	9574	867 (9,1%)	4961	281 (5%)	3618	78 (2,2%)

Since 2018, wild boar ASF test results have been different from the previous results. between 2014 and 2017, we found many virus positive wild boar, However, in 2018 and 2019, we have found mainly antibody positive wild boar. In 2018 from all ASF positive wild boar 84,3% were only antibody positive. From all tested wild boar, only 1,2% were virus positive.

In 2019, we have found only 6 virus positive wild boar and 64 antibody positive wild boar.

Figure 7. ASF wild boar cases 2014 - 2018

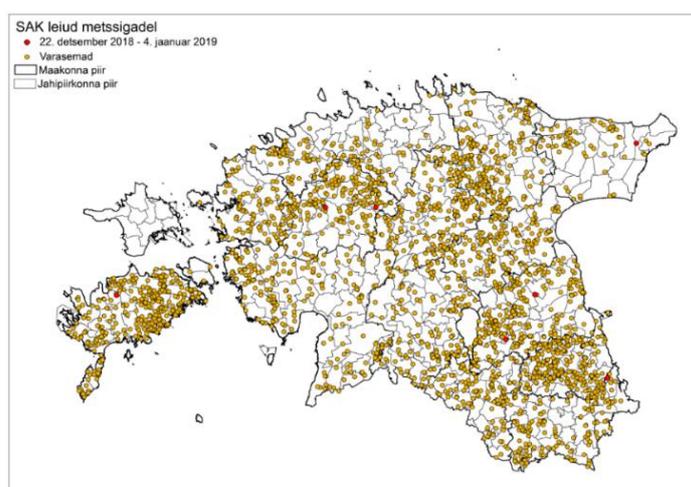
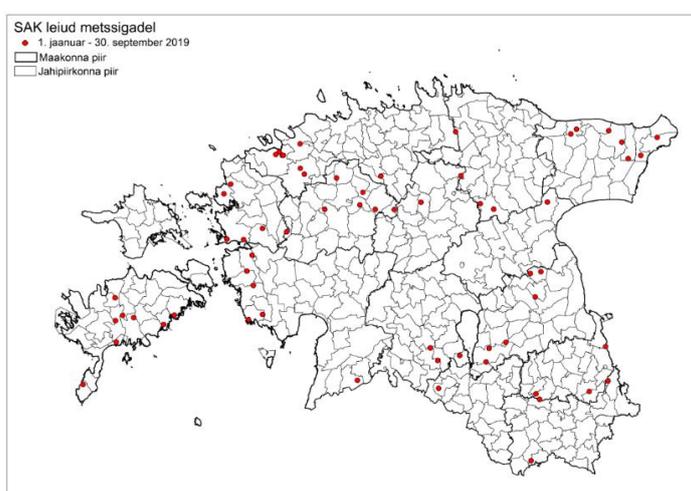


Figure 8. ASF wild boar cases in 2019 (as of 30.09. 2019)



Further information on hunting management is presented in annex 4.

IX. ASF CONTROL AND PREVENTION AT EUROPEAN UNION AND INTERNATIONAL LEVEL

Control of movement of pigs and genetic material in the country and between the Member States is organised according to the European and national legislation. All Estonian territory is under zone II according to the Commission Implementing Decision No. 2014/709. Therefore, Council Directive 64/432⁸ and Commission Implementing Decision No. 2014/709 will apply for the movement of pigs. (List of the national legislation 1.5.3)

When live pigs and genetic material are traded, a health certificate signed by an official veterinarian of the Member State of origin is required. The terms for issuing these certificates are defined in European legislation and also in compliance with Articles 15.1.8. and 15.1.10. to 15.1.12. of the OIE *Terrestrial Code*.

The pigs must not come from a farm (or zone) that is subject to a ban or restriction on the species in question for animal health reasons. Within 24 hours prior to departure, the animals must undergo an identification check and a clinical examination made by an official veterinarian and must not display any clinical signs of disease. During the journey between the original farm and arrival at their

⁸ <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31964L0432&from=EN>

destination, the animals must have no contact with other cloven-hoofed animals that do not have the same health status. In the event of ASF outbreaks, live pigs from infected zones may not be moved to other Member States.

Genetic material (sperm, eggs, embryos) must not present a risk of propagating diseases. These products must meet several conditions, including, having been collected from animals that meet various health requirements and primarily they must not present any clinical sign or infectious disease at the time of collection. The health certificate for live pigs and genetic material is registered by the competent authority of the Member State of origin in the TRACES system. Veterinary and Food Board thus has advance notification of the arrival of the pigs/genetic material.

Products of animal origin (e.g.: meat) from ASF restriction zones must be obtained from animals that:

- do not come from a farm or territory subject to animal health restrictions;
- in the case of meat and meat-based products, they must not have been slaughtered in an establishment where infected animals or animals suspected of being infected by these diseases, their carcasses or carcass parts were present at the time of slaughtering or the production process;
- animal products are not subject to the health certification obligation and must be accompanied by a trade document (free circulation of goods).
- If the pigs come from a regulated zone, the animal products may be put on the market (when licensed by the competent authority), provided that these products are clearly identified, that they are subjected to a treatment that removes the animal health problem and that the treatment is applied in an establishment accredited for the purpose by the competent authority. These products must be covered by health certification (compliance with Articles 15.1.13; –15.1.20. of the OIE *Terrestrial Code*).

X. CONCLUSION

Based on the information provided in this report and in accordance with the provisions of point 3 of Article 15.1.4. of the OIE *Terrestrial Code*, this self-declaration provides documented evidence that:

1. An ASF surveillance programme has been in place for more than 3 years in both domestic and captive wild pigs as well as in wild and feral pigs;
2. There has been no case of infection with ASFV in domestic or captive wild pigs during the past two years (last outbreak in September 2017) and no evidence of presence of *Ornithodoros* ticks in Estonia;
3. Pigs and pig commodities are imported in compliance with European regulations and OIE Standards.

Consequently, the OIE Delegate of Estonia declares that the country fulfils the requirements for a freedom from ASF in domestic and captive wild pigs as of 19 September 2018, in compliance with Chapter 1.6. and Article 15.1.4. point 3. of the OIE *Terrestrial Code* (2019) and consistent with the information provided in WAHIS.

Annex 1

LIST OF THE RELEVANT NATIONAL LEGISLATION

1.1 Organisation of the Official Control System

- 1.1.1 Supervision of animal health is based on Veterinary Organisation Act that establishes the basis for the organisation of veterinary controls, authorisations of private veterinary practitioners and authorized veterinarians, laboratories and the principle of veterinary control fees. Veterinary Organisation Act is available at <https://www.riigiteataja.ee/akt/102032011002?leiaKehtiv>
- 1.1.2 The Infectious Animal Disease Control Act provides the legal framework for disease diagnosis and eradication, including notification of suspects, measures to be taken in case of suspicion or conformation, protection, eradication, compensation and fines. Animal Disease Control Act is available at <https://www.riigiteataja.ee/akt/118122012023?leiaKehtiv>
- 1.1.3 The list of infectious animal diseases which are subject to notification or registration is established by the regulation of Ministry of Agriculture No 34 from 25.11.1999. Regulation is available at <https://www.riigiteataja.ee/akt/128122012008?leiaKehtiv>
- 1.1.4 The rules for the control of ASF are established by the Regulation of Ministry of Agriculture No 179 from 23.11.2004. Regulation is available at <https://www.riigiteataja.ee/akt/821454?leiaKehtiv>

1.2 Holding registration, animal identification, movement controls

- 1.2.1 Holding registration requirement and information needed to be submitted can be found from § 11 in Infectious Animal Disease Control Act (available at <https://www.riigiteataja.ee/akt/118122012023?leiaKehtiv>)
- 1.2.2 The list of species of farm animals that are subject to identification, the method and procedure for the identification and registration of such animals, the manners of and procedure for registration of the data of farm animals, the procedure for issue of registration certificates and the format of cattle passports and the rules of accounting farm animals (Regulation of Ministry of Agriculture No 128 21.12.2009). Available at <https://www.riigiteataja.ee/akt/129122014035?leiaKehtiv>
- 1.2.3 Procedure for moving animals from one herd to another and for sending animals to a slaughterhouse and the veterinary requirements (Regulation of Ministry of Agriculture No 48 from 16.05.2008 which is available at <https://www.riigiteataja.ee/akt/128062014128?leiaKehtiv>)

1.3 Biosecurity measures

- 1.3.1 A list of minimum compulsory biosecurity measures is stated in Infectious Animal Disease Control Act § 7¹ (<https://www.riigiteataja.ee/akt/118122012023?leiaKehtiv>)

1.4 Surveillance in domestic and feral pigs

- 1.4.1 The rules for the control ASF and more specific biosecurity measures (§ 7¹) are established by the Regulation of Ministry of Agriculture No 179 from 23.11.2004 which is available at <https://www.riigiteataja.ee/akt/821454?leiaKehtiv>.
- 1.4.2 Implementation measures of National infectious animal disease programmes in [2016](#), [2017](#), [2018](#), [2019](#).

1.5 Traceability of pig meat, meat products and by-products

- 1.5.1 The veterinary requirements for products of animal origin and handling thereof are established the Regulation of Ministry of Agriculture No 55 from 13.05.2005 which is available at <https://www.riigiteataja.ee/akt/110102014016?leiaKehtiv>
- 1.5.2 The Infectious Animal Disease Control Act provides legal base for processing animal by-products (§ 18¹). The Act is available at <https://www.riigiteataja.ee/akt/130122014011?leiaKehtiv>

- 1.5.3 [Pig movement instruction](#): Live pigs and pigs movement between zone II or III for immediate slaughter within Estonia and zone II or III in Estonia and from Estonia to other Member States, [Decree of Director General No 89 from 24.09.2019](#).

Annex 2.

BIOSECURITY REQUIREMENTS

All mandatory biosecurity rules are applied to the pig farms and to the captive wild pigs and backyard farms.

1. General biosecurity requirements applicable to all animal keepers in Estonia are listed in Infectious Animal Disease Control Act § 7¹. According to that animal keeper must follow the next biosecurity measures (List of national legislation 1.1.2):

For the purpose of preventing an infectious animal disease, a keeper of animals takes the following biosafety measures:

- 1) organisation of the movement of persons and means of transport;
- 2) denial of third-party access to livestock buildings and facilities and to areas enclosed for keeping animals;
- 3) with regard to a person who has arrived from a foreign state, denial of access to livestock buildings and facilities and to areas enclosed for keeping animals until 48 hours have passed from the arrival of the person in Estonia from the foreign state;
- 4) keeping an animal to be included in the herd separately from other animals based on the animal's disease status;
- 5) separating a sick animal from healthy ones;
- 6) organisation of handling feeding stuffs, litter and other materials that possibly carry infections, and regular cleaning and disinfection of the materials;
- 7) regular rodent and insect control;
- 8) restriction of wild and domestic animal access to livestock buildings and facilities and to areas enclosed for keeping animals, and other relevant measures that are necessary for controlling the spread of animal diseases.

In the event and within the time provided for in the infectious animal disease control rules, the keeper of animals draws up a biosafety plan regarding the biosafety measures to be taken in a livestock building and construction works and, in an area, enclosed for keeping animals.

The biosafety plan must specify the biosafety measures taken in a livestock building and construction works and, in an area, always enclosed for keeping animals and keep record of the application of the measures. The biosafety plan is preserved for a term of two years after the expiry of the obligation to implement it.

2. More specific compulsory biosecurity rules that are applied in the country according to The Regulation of Minister of Agriculture No 179, (List of national legislation 1.4.1):

- Pigs must be kept indoors, no contact with other animals;
- organizing the entrance to the farm over disinfection barrier (both for humans and vehicles);
- changing of clothes and disinfection of hands and footwear before entering the holding and after leaving it;
- no exchange of equipment, feed and bedding with other farms;
- bringing dead or part of wild boar into a pig farm territory is forbidden, no contact to any part of feral pig at the farm territory (in compliance with point 7. of Article 15.1.3. of the OIE *Terrestrial Code*);
- bringing green fodder to the farm territory is not allowed;
- it is only allowed to use feed that has been kept for the last 30 days in the way that no animals (and possibly contaminated humans) have no contact with it or it has been heat-treated outside the farm;
- it is only allowed to use bedding that has been kept for the last 90 days in the way that no animals (and possibly contaminated humans) have no contact with it;
- animal keeper explains biosecurity measures to farm workers and household members and orders additional measures after visiting woods;
- territory of the farm is fenced to avoid contacts between domestic pigs and wild boar and the other wildlife (in compliance with point 7. of Article 15.1.3. of the OIE *Terrestrial Code*). Also, all food, manure, slurry and farming materials must be protected from any contact with wild boar (in compliance with point 7. of Article 15.1.3. of the OIE *Terrestrial Code*);

- swill feeding is forbidden, §5.

In the areas under restrictions home slaughtering must be notified to local veterinary centre who will organise the supervision and, if necessary, sampling. Pig farmer also has to draw up biosecurity plan and it should be approved by Veterinary and Food Board. Implementation of biosecurity plan must be recorded.

Implementation of biosecurity rules are inspected during farm inspections. Each year all pig farms are inspected. Beside controlling implementation of biosecurity rules, general information about the farm is also collected (herd structure, movement of pigs – to farm or slaughterhouse/home slaughter, deaths).

Results of the inspections in 2016-2018 are:

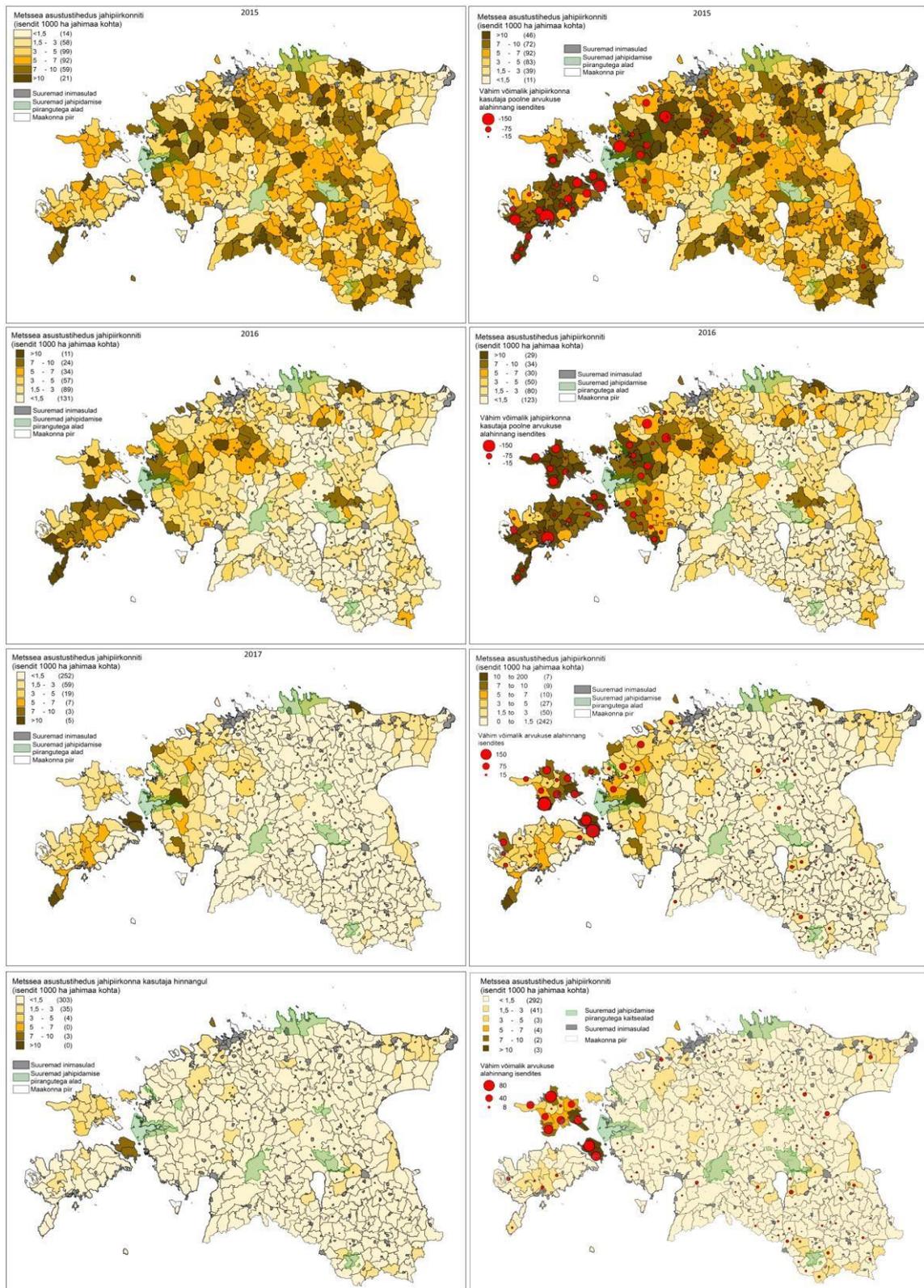
- in 2016 233 pig farms were inspected, from which 50 received precept (mainly about improving biosecurity plan. Cleaning and disinfection, fencing)
- in 2017 194 pig farms were inspected, from which 9 received precept (mainly about improving fencing)
- in 2018 132 pig farms were inspected, from which 16 received precept (mainly about disinfection).

The major awareness campaigns were devised by the Veterinary and Food Board, Ministry of Rural Affairs (compliance with point 2. of Article 15.1.3. of the OIE *Terrestrial Code*):

- Video materials and posters about biosecurity measures during the hunting and processing the carcasses
- Posters for the domestic pig farms about the biosecurity measures
- Posters at entry points of travellers from the third countries
- Regular meetings with hunters and pig farmers
- ASF situation updates and biosecurity requirements in hunters' magazine and webpage
- ASF as part of hunters' trainings to get hunting permit
- Calendars 2018 for pig farmers: 12 months with different biosecurity rules with humorous pictures
- Special ASF webpage posts information on African Swine Fever: <https://www.agri.ee/et/seakatk>
- Meetings with National Reference laboratory, Environmental board, Environmental inspectorate, veterinary associations, hunting associations, representatives from the farming sectors, transport company association, etc.

Annex 3

Density of wild boar in spring before parturition based on hunters` estimations (left row) and minimum density of wild boar in spring before parturition based on combination of data of hunters` estimations and bag statistics. The size of red dots expresses the minimum number of underestimated animals.



Annex 4

HUNTING MANAGEMENT

Several measures have been implemented to minimize ASF spread to domestic pigs.

Selective hunting is implemented- hunters focus on shooting adult and sub-adult females. From all hunted adult and sub-adult wild boar – at least 50% have to be female and 50% sub-adults. Sub-adults are 6-12 months old wild boar and adults are older than 12 months.

By the decree of Environmental Board additional feeding is not allowed, unless for bating (max 100 kg of feed per feeding place per month, on ground max 5 kg of feed per feeding slot/place). The minimum distance of feeding/bating places is 1 km and max 1 feeding place for the 1000 hectare is allowed. Also, all feeding places must be registered.

By the decree of Environmental Board hunters must notify VFB regional office by-email about hunted wild boar and found dead wild boar (in compliance with point 1 of Article 15.1.3. of the OIE *Terrestrial Code*). For hunted wild boar, the information must contain name of the hunter, phone number, date of the hunting, number of hunting licence, sex of the hunted wild boar, age estimation, place of the hunting.

Carcass collection

Wild board which are found dead, are buried in the same place if possible. Burial is carried out by hunters and they have to notify local veterinary centre about finding dead wild boar. Official from country veterinary centre has to take the sample and give instructions regarding burial (burial hole must be at least 0,5m in depth) or using container system. Burial place must be disinfected.

If burial is not applicable, container collection system for positive wild boar has been organised. Containers are placed in the areas where ASF has been diagnosed in wild boar. Rendering plant changes full container (locked and solely for wild boar carcasses and related to ASF and also for wild boar offal) with empty container once a week/in case of the need, based on information received from hunting club. Containers are collected with separate truck and cleaned and disinfected each time. Full containers will be taken into rendering plant for incineration. Hunters are provided with disinfectants for their vehicles. Hunters are responsible of carrying carcasses from the finding place to containers.

Biosecurity during hunting

All hunting equipment (vehicle, boots, clothing etc.) must be cleaned and washed after hunting; vehicles used to transport hunted wild boar and animal by-products must be leak-proof; storage room for hunted wild boar and equipment in hunting lodges must be cleaned and disinfected. Hunted wild boar must be kept in cold storage room until ASF testing results have arrived (positive carcass must be taken into special container). Hunted wild boar cannot be taken outside from hunting ground before test results have arrived. If the tests results are positive then storage place, all equipment and transportation means are disinfected under the supervision of veterinary inspector/official veterinarian. Offal is gathered into containers and not left into woods.