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Prevention Instruments against African Swine Fever and Legal Protection of Wild Game in Poland

1. African swine fever

African swine fever (ASF) is a viral disease caused by a complex DNA virus that affects only porcine species of all breeds and ages. Contagious viral swine disease is highly resistant and has affected domestic and wild boars. European susceptible species are domestic pigs and European wild boars in all age categories (no age dependency) and without gender predilection. It does not affect humans or other animal species.[1]

ASF was reported for the first time in 1909 in Kenya (genotype I)[2] and spread all over Africa. Genetic characterization of all the ASF virus isolates known so far has demonstrated 23 geographically related genotypes with numerous subgroups.[3] The first ASF incursion outside Africa was made in the second half of the 20th century in Europe. ASF was introduced into Portugal from West Africa in 1957. After eradication of this incursion, ASF virus of genotype I reappeared in the country in 1960, and then spread across Europe (Italy – 1967, Spain – 1969, France – 1977, Malta – 1978, Sardinia – 1978,

[1] D. Beltrán-Alcrudo, M. Arias, C. Gallardo, S. A. Kramer, M. L. Penrith, *African Swine Fever: Detection and Diagnosis*, Food and Agriculture Organization of the United Nations, Rome 2017, No. 19, p. 1.

[2] *Ibidem*, p. 7. The first outbreak was described by: R.E. Montgomery, *A Form of Swine Fever Occurring in British East Africa (Kenya Colony)*, "Journal of Comparative Pathology" 1921, No. 34, pp. 159–191 and E. Olsevskis, M. Masiulis, *Better Training for Safer Food. Introduction to African Swine Fever*, Belgrade 2018.

[3] D. Beltrán-Alcrudo, M. Arias, C. Gallardo, S.A. Kramer, M.L. Penrith, *op. cit.*, p. 6.

Belgium – 1985, and the Netherlands – 1986).[4] It also hit the Caribbean (Cuba – 1971 and 1980, the Dominican Republic – 1978, and Haiti – 1979) and Brazil (1978).[5]

All Western European countries successfully controlled the outbreaks after brief periods except for Spain and Portugal, where the struggle with the disease lasted several decades until the 1990s, and Italy's Mediterranean island of Sardinia, where ASF has been endemic since its introduction in 1978, circulating mainly in free-range settings and wild boar.[6]

In 2007, ASF of genotype II,[7] came from Mozambique, Madagascar and Zambia to Georgia. It was most likely introduced via ship waste that was either turned into swill or was disposed of in an area accessible to scavenging pigs.[8] The disease spread quickly throughout the Caucasus (Armenia in 2007 and Azerbaijan in 2008) and into the Russian Federation (2007). In 2018, a very serious situation occurred throughout China[9] and North Korea. In the past few years, the disease has progressively spread westwards, entering Ukraine (2012), Belarus (2013), the European Union (Lithuania, Poland, Latvia and Estonia, 2014), and Moldova (2016).[10] In Poland, the first outbreak was found in 2014. At the end of 2018, the virus was already present in Romania, Moldova, the Czech Republic and Hungary.

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[4] *Ibidem*, p. 10; M. Frączyk, G. Woźniakowski, A. Kowalczyk, Ł. Bocian, E. Kozak, K. Niemczuk, Z. Pejsak, *Evolution of African Swine Fever Virus Genes Related to Evasion of Host Immune Response*, "Veterinary Microbiology" 2016, Vol. 193, pp. 133–144; *ASF and the Legislative Framework: The Management of Disease Eradication Through Awareness and Cooperation*, Ministerial Conference on the "Eradication of African Swine Fever in the EU and the Long-Term Management of Wild Boar Populations", 12 December 2018, Brussels, https://ec.europa.eu/food/sites/food/files/animals/docs/ad_control-measures_asf_conf-20181219_pres-03.pdf [access: 19.05.2020].

[5] D. Beltrán-Alcrudo, M. Arias, C. Gallardo, S.A. Kramer, M.L. Penrith, *op. cit*, p. 10; C. Gallardo, A. de la Torre Reoyo, J. Fernández-Pinero, I. Iglesias, J. Muñoz, M.L. Arias, *African Swine Fever: A Global View of the Current Challenge*, "Porcine Health Management" 2015, Vol. 1, p. 21.

[6] D. Beltrán-Alcrudo, M. Arias, C. Gallardo, S.A. Kramer, M.L. Penrith, *op. cit*., p. 10. In 2018, in Belgium there were 128 ADNS notifications of ASF cases in wild boar but only in the infected area (South Wallonia). No outbreaks in domestic pigs were reported, *African Swine Fever in Wild Boar. Belgian Case*, Ministerial Conference, 19 December 2018, Brussels, https://ec.europa.eu/food/sites/food/files/animals/docs/ad_control-measures_asf_conf-20181219_pres-06.pdf [access: 19.05.2020].

[7] E. Chenais, K. Depner, V. Guberti, K. Dietze, A. Viltrop, K. Ståhl, *Epidemiological Considerations on African Swine Fever in Europe 2014–2018*, "Porcine Health Management" 2019, Vol. 5, p. 6.

[8] M. Szewczak, *Współpraca jednostek samorządu terytorialnego z Polskim Związkiem Łowieckim w zakresie zwalczania Afrykańskiego Pomoru Świń*, Narodowy Instytut Samorządu Terytorialnego, „Ekspertyzy i opracowania" 2018, Nr 42, p. 1, www.nist.gov.pl [access: 19.05.2020].

[9] With China relying heavily on the pork industry and owning almost half of the world's domestic pigs, an ASF epidemic would have a catastrophic impact on trade and pig production, with serious implications for global food security, see: D. Beltrán-Alcrudo, M. Arias, C. Gallardo, S.A. Kramer, M.L. Penrith, *op. cit*., p. 6.

[10] See a scientific report of the European Food Safety Authority EFSA: *Epidemiological Analyses on African Swine Fever in the Baltic Countries and Poland*, "Journal EFSA" 2017, Vol. 15(11), p. 5068, https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2017.5068 [access: 19.05.2020].

The main source and reservoir of ASF are wild boars carcasses remaining in the environment, as well as infected wild boars migrating to Poland from Belarus and Ukraine. Nowadays three stages of ASF spread have been recognized in Poland. During the first stage ASF spreads exclusively within wild boar population. During the second stage, the virus is transferred from wild boars to domestic pigs in backyard holdings. Currently, the third stage is observed, during which the ASF virus spreads from swine carcasses to wild boars.[11]

No commercial vaccine exists currently to prevent and control ASF and in fact, an effective commercial vaccine against ASF has never been successfully developed.[12] For over 40 years, various strategies have been employed in the search for an effective vaccine against this disease. European countries are fighting ASF and trying to prevent the virus's spread. However, few effective results have been obtained so far and the disease continues to spread into neighbouring countries, mainly along wild boar corridors, and other ways of virus transmission could occur at any time.[13]

The current problem directly related to one of the protected by law game species, the wild boar, is the threat posed by the ASF virus and refers to the issue of sanitary hunting. ASF epidemic that has been ongoing in Europe for several years, despite legal protective instruments implementation, is systematically expanding its range.[14] The aim of this research is to identify and evaluate legal regulations made in terms of ASF. The research also focuses on assessing the adopted instruments of ASF prevention.

2. Legal instruments against African swine fever in the European Union

In the EU, this issue is regulated in Council Directive 2002/60/EC laying down specific provisions for the control of African swine fever (hereinafter referred to as Directive 2002/60/EC)[15] and the Commission Implementing Decision 2003/422/EC,

[11] Z. Pejsak, G. Woźniakowski, K. Śmietanka, A. Ziętek-Barszcz, Ł. Bocian, M. Frant, K. Niemczuk, *Przewidywany rozwój sytuacji epizootycznej w zakresie afrykańskiego pomoru świń w Polsce*, „Życie Weterynaryjne" 2017, z. 4, p. 255.

[12] C. Gallardo, A. de la Torre Reoyo, J. Fernández-Pinero, I. Iglesias, J. Muñoz, M.L. Arias, *op. cit*., p. 23.

[13] *African Swine Fever*, Gap Analysis Report, The Global African Swine Fever Research Alliance (GARA), November 2018, p. 6, https://go.usa.gov/xPfWr [access: 19.05.2020] or J. Alvarez, D. Bicout, A. Boklund et al., Research Gap Analysis on African Swine Fever, Scientific Report, "EFSA Journal "2019, Vol. 17(8), pp. 2–3.

[14] *African Swine Fever in Wild Boar in the Czech Republic. Development and Current Situation* (ASF – Measures in Infected Areas), Ministerial Conference, 19 December 2018, Brussels, https://ec.europa.eu/food/sites/food/files/animals/docs/ad_control-measures_asf_conf-20181219_pres-01.pdf [access: 19.05.2020].

[15] Council Directive 2002/60/EC of 27 June 2002 laying down specific provisions for the control of African swine fever and amending Directive 92/119/EEC as regards Cieszyn disease and African swine fever, Official Journal of the EU L 192 from 20.07.2002, p. 27.

issued on this basis, of 26 May 2003 approving the African swine fever diagnostic manual.[16] On this basis, the European Commission, by implementing decision of 9 October 2014 concerning animal health control measures relating to ASF in certain Member States and repealing Implementing Decision 2014/178/EU[17] has established a number of animal health control measures, including the ban on sending pigs and pork from endangered areas.

The current state of the threat occurrence within the EU was determined by Commission Decision 2020/662 of 15 May 2020 amending Implementing Decision 2014/709/EU concerning animal health control measures relating to ASF in certain Member States.[18] This act confirmed the occurrence of the virus in large part of eastern and central Poland, and even in western part of the country, to which bans will be applied.

Member States must ensure that any suspicion of disease is immediately reported to the authorities of the country concerned and, if confirmed, the results of the investigation must be submitted to the European Commission. Member States were required to draw up and submit to the Commission the plan of the measures taken to eradicate the disease (Art. 16) and report progress on its implementation every six months. In the area of disease occurrence:

1. Agricultural holdings must be placed under supervision, and animals and pig products, materials or wastes that could be moved by ASF, cannot leave the farm area.

2. Restrictions may also apply to the movement of people or vehicles.

3. Determining the occurrence of disease on the farm, with a few exceptions, requires the slaughter of all pigs and the destruction of infected meat or other waste.

4. Similar rules apply to the detection of disease in a slaughterhouse or means of transport.

5. Rooms, vehicles and equipment that may be contaminated must be cleaned and disinfected.

6. An order was also made to create an "infected area" with a radius of at least 3 km and a "vulnerable area" with a radius of 10 km around the outbreak.

If it is suspected that wild boars may have been infected, Member States must notify the pig owners and hunters as well as carry out a study of all shot or dead boars. It is obligatory to designate the infected area together with farms under surveillance, as well as it is possible to issue a hunting ban. Since 2013, grants for a total amount of 95 million EUR have been awarded for programmes and emergency measures implemented by Member States in the combat against ASF.[19]

[16] Official Journal of the EU L 143 from 11.06.2003, p. 35; Official Journal of the EU, Polish special edition, Ch. 3, Vol. 39, p. 59.

[17] Official Journal of the EU L 295 from 11.10.2014, p. 63.

[18] Official Journal of the EU L 155 from 18.05.2020, p. 27.

[19] *ASF and the Legislative…*, p. 40.

3. Legal instruments against African swine fever in Poland

Legal actions that were introduced in Poland aimed at:

1) preventing ASF,

2) providing special solutions related to ASF occurrence on the territory of the Republic of Poland.

3.1. Preventing both infectious diseases of animals and threat to people is an element of veterinary protection of animals governed by the provisions of the Act of 11 March 2004 on the Protection of Animal Health and Control of Infectious Animal Diseases (hereinafter referred to as PAH)[20] and the Act of 23 September 2016 amending certain other acts to facilitate the control of infectious animal diseases.[21] Regulation in this area is also settled in the Hunting Law Act of 13 October 1995 (hereinafter referred to as HLA).[22]

We can recognize three groups of legal instruments:

1) mandatory signalling the virus incursion,

2) control measures include administrative and legal instruments of a mandatory and regulatory nature,

3) programming.

The first of the duties laid down consists of implementing an obligation to signal the virus incursion. The provision of Art. 42 of PAH in the event of a suspected disease imposes on the animal keeper an immediate notification of the veterinary inspection, veterinarian or the executive body of the commune. In addition, the obligation to notify the indicated bodies or the nearest institution of a clinic for animals with evident signs of diseases of free-living animals rests, pursuant to Art. 14 of HLA, on the lessee and manager of the hunting district and owners and land managers. Due to the nature of the ASF spread outside the country, in the event of an outbreak, veterinary authorities provide information on protected, threatened or other areas established in connection with the eradication of disease outside the Republic of Poland, competent authorities of EU Member States or third countries in order to cooperate in the eradication of contagious animal disease (Art. 48 of PAH). Regulation of the Ministry of Agriculture and Rural Development of 6 May 2015 on controlling African swine fever[23] determines the manner and procedure of suspicion or confirmation of ASF, the manner and conditions for the identification of infected, threatened and contaminated areas, measures to control the disease, the manner of cleaning and disinfection and the re-placement of animals on the farm.

[20] Consolidated text from 2018, Journal of Laws, p. 1967, as amended.

[21] Journal of Laws of 2016, pos. 1605.

[22] Consolidated text from 2018, Journal of Laws, p. 2033, as amended.

[23] Journal of Laws of 2015, p. 754, as amended.

The second group of ASF control measures includes administrative and legal instruments of a mandatory and regulatory nature. The Minister of Agriculture may introduce:

1) the division of the country into restricted and disease-free zones, and may also require universal testing, examinations and other treatments on animals of susceptible species, with a view to preventing uncontrolled spreading of the disease infectious animals,

2) temporary bans for leaving the disease outbreak and temporary restrictions on movement of people or vehicles, with a view to preventing the uncontrolled spread of infectious animal diseases and minimizing the nuisance of the introduced restrictions (Art. 47 of PAH).

In addition, pursuant to Arts. 44–46 of PAH, bans may be introduced, established by the district veterinarian either by a regulation (local law act) or by an administrative decision or by way of a voivode's decree. In this form, an order may be issued to hunt game animals (wild boars), imposed on leaseholders or managers of hunting districts.[24] It is also possible to provide sanitary hunting even in areas covered by legal forms of nature protection, which, pursuant to Art. 47a of PAH, is carried out by a hunter from the Polish Hunting Association for a fee.

The owner of animals killed or slaughtered by order of the Veterinary Inspection bodies, or that died as a result of the procedures imposed by these organs in the control of infectious animal diseases, is entitled (pursuant to Art. 49 of PAH) to compensation if he complies with all obligations imposed with regard to ASF. Detailed issues are regulated by the Regulation of the Ministry of Agriculture and Rural Development of 6 May 2015 on measures taken in connection with combating African swine fever,[25] on the basis of which prohibitions and orders for farms were established from the areas of occurrence and danger of the disease.

The creation of a protective system functioning in a coherent way across the EU did not protect against all health security problems. Hence, Member States, based on the provisions of Directive 2002/60/EC, develop contingency plans taking into account local factors such as the density of pig farms that may contribute to the spread of African swine fever virus.[26]

[24] This is provided for in the provisions of the Regulation of the Ministry of Agriculture and Rural Development of 19 February 2016 on the regulation of wild boar hunting (Journal of Laws of 2016, item 229), ordering wild boar hunting to reach the density of wild boar at the level of at most 0.5 person/km^2 in the areas specified in the annex to the regulation, excluding national parks and nature reserves.

[25] Consolidated text, Journal of Laws of 2018, pos. 280, as amended.

[26] The strategy of combating ASF for the eastern part of the European Union is mentioned in the document SANTE/7113/2015-Rev7, which contains guidelines for the surveillance and eradication of African swine fever among boars.

In Poland, an updated ASF control program is prepared annually, adopted pursuant to the Ministry of Agriculture and Rural Development regulation (executive order). The provisions of the Regulation the Ministry of Agriculture and Rural Development of 20 March 2019 on the introduction in 2019 on the territory of the Republic of Poland of a "Program aimed at early detection and control of African swine fever virus infections in Poland",[27] provide for the application of measures aimed at strengthening the protection of the territory of the Republic of Poland against ASF. The program provides for:

1) reduction in the population of wild boars carried out both by hunting and sanitary hunting; from 2020, according to EU regulations, compensation and selective hunting would not be eligible in the programmes,

2) increasing the share of female boars in reducing the population of this animal species,

3) prohibiting the feeding of wild boars.

The 2020 programme maintains these measures.[28]

It should also be emphasized that based on para. 1 point 3 of the Decree of the Minister of the Environment of 1 August 2017 amending the regulation on hunting periods for game animals,[29] it is allowed to hunt wild boars for a whole year, and therefore also during the breeding period. These regulations met with a negative response from public opinion, and did not receive full support from the Polish Hunting Association.[30]

3.2. The Act of 5 September 2016[31] also introduces specific solutions related to the occurrence of African swine fever regarding the supply of pork from farms located in the areas covered by regulatory measures established in connection with the occurrence of the virus. The regulations introduce procedural simplifications for the sale of pork to producers in the areas where the virus is present, provided that it meets veterinary requirements.

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[27] Journal of Laws of 2019, pos. 598.

[28] Regulation of the Minister of Agriculture and Rural Development of 12 February 2020 on the introduction in 2020 on the territory of the Republic of Poland of a "Programme for the early detection and control of African swine fever virus infections in Poland" (Journal of Laws of 2020, pos. 290).

[29] Journal of Laws of 2017, pos. 1487.

[30] The Polish Hunting Association declaration from 10 January 2019 – *Myśliwi przeciwni strzelaniu do ciężarnych loch*, https://wiadomosci.onet.pl/kraj/mysliwi-przeciwni-strzelaniu-do-ciezarnych-loch-oswiadczenie-pzl-i-nrl/0sn4dpb [access: 19.05.2020].

[31] Act of 5 September 2016 on specific solutions related to the occurrence of African swine fever on the territory of the Republic of Poland (consolidated text, Journal of Laws of 2019, p. 988) together with executive order to the act.

4. Conclusions

The applicable regulations turn out to be insufficient and the virus is systematically spreading. It is influenced by many factors, including the level of awareness with regard to the principles of biosecurity among farmers and hunters. Wild boar management rules (cooperation with agricultural and environmental sectors, biosecurity during hunting, hunting management, ban on feeding) are of great significance.

In addition to the above, hunters have to change their perspective. The situation was not improved by the reduced wild boar population, which is the result of sanitary hunting since 2014. In 2015, 310,000 wild boars were shot, whereas in 2019 – 185,000.[32] The similar situation happened in Lithuania[33] and Estonia.[34] Hence the proposals to combat the epidemic by building, like in Luxembourg, fences along the eastern border of Poland, or shooting all boars living within its territory, and then reintroducing them.[35]

To sum up, even the best legal regulation does not protect against the spread of ASF virus. It can be colloquially said that the virus is resistant to it. Effective implementation of law can be ensured only by farmers-hunters who will strictly follow the established biosecurity procedures.

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[32] Data on the hunting season: 2014/2015 – 260,000 wild boars; 2015/2016 – 310,000; 2016/2017 – 282,000; 2017/2018 – 308,000; 2018/2019 – 185,000 (*Myśliwi…*).

[33] Data on the hunting season: 2013/2014 – 48,420 wild boars, 2014/2015 – 44,940; 2015/2016 – 41,222; 2016/2017 – 24,962; *ASF and the Legislative*…, p. 53.

[34] Data on the hunting season: 2013/2014 – 24,909 wild boars; 2014/2015 – 32,580; 2015/2016 – 17,610; 2016/2017 – 7,690; *ASF and the Legislative* …, p. 55.

[35] *Ardanowski: W walce z ASF konieczne jest wybicie dzików*, Gazeta Prawna, 27 lipiec 2018, https://www.gazetaprawna.pl/artykuly/1193103,w-walce-z-asf-koniecznejest-wybicie-dzikow-ardanowski.html [access: 19.05.2020].

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Keywords: African swine fever; wild game protection; infection zones