



REPORT

Expert mission on African swine fever to Bosnia and Herzegovina

Period: 12. – 14. 07. 2023

The Team: Petr Šatrán (team leader, CZ), Mārtiņš Seržants (LV), Mark Hovari (FAO, Hungary), Budimir Plavsic (WOAH, Serbia)

Places visited during the mission:

- Sarajevo: Ministry of Foreign Trade and Economic Relations – meeting with Minister and his team; State Veterinary Office - meetings with CVO and his team, representatives of veterinary authorities of Ministry of Agriculture of the Federation of Bosnia and Herzegovina and Ministry of Agriculture, Forestry and Water Management of the Republic of Srpska
- Bijeljina city: local administration (City Hall); meeting with Mayor and authorities, representatives of local ASF Crisis Center (Directorate for Civil protection, Police), pig farmers, hunter's association.
- Bijeljina area (village Srednji): Visiting of small pig backyard holding (index case of ASF).
- Brčko: The Brčko District – meeting with the local administration and authorities responsible for control of ASF.
- Banja Luka: meeting at Veterinary Institute “Dr Vaso Butozan” with representatives of the Ministry of Agriculture/Veterinary Department of Republic of Srpska and Institute
- Sarajevo: meeting at Veterinary Faculty/Veterinary Laboratory (ASF laboratory representatives, representatives of State Veterinary Office and Ministry of Agriculture of Federation of Bosnia and Herzegovina.
- Sarajevo: closing meeting with representatives of State Veterinary Office, Ministry of Agriculture of Federation of Bosnia and Herzegovina, Ministry of Agriculture of Republic Srpska and Ministry of Agriculture of District Brcko.

Terms of Reference of (ToR) the SGE¹ Expert Missions to Bosnia and Herzegovina

1. The experts should perform on the spot visits 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:

¹ SGE: Standing Group of Experts on African swine fever in Europe under the GF-TADs umbrella

- a. 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.
 - b. If ASF is occurring in wild boar and geographical distribution of ASF in wild boar.
 - c. Formulate hypothesis on the drivers of ASF occurrence.
3. Propose measures intended for the control and eradication of ASF under local conditions, in line with the WOAHA International Standards and the Recommendations formulated by the GF-TADs SGE on ASF.
4. The experts should report to the Standing Group of Experts on African swine fever in Europe under the WOAHA/FAO GF-TADs and to the Veterinary Services of the country being visited. A written report should be produced for each mission.

I. VETERINARY SERVICES OF BOSNIA AND HERZEGOVINA: GENERAL INFORMATION

Overview:

i) National level:

Under the Dayton Agreement, The governance structure of Bosnia and Herzegovina (BiH) is comprised of a state level Council of Ministers and two entities - the Federation of Bosnia and Herzegovina (FBiH) and Republika Srpska (RS), each with its own constitution, and Brčko District (BDBiH).

The Council of Ministers is the executive body of BiH responsible for ensuring that the Government functions according to the Constitution, laws and other legislative acts.

MoFTER is the competent Ministry responsible for implementing foreign trade policy, customs tariff policy, and relations with international organizations and institutions in foreign trade and economic ties. Concerning the agriculture and food sector, MoFTER has specific responsibilities for consumer protection, veterinary medicine, agriculture, environmental protection, and the development and use of natural resources. At the State level, two institutions within the MoFTER, the State Veterinary Office (SVO) and the Plant Health Protection Office (PHPO), have responsibilities concerning food safety, animal health/welfare and plant protection.

The SVO is responsible, among other things, for developing draft regulations in cooperation with the entities in the area of animal health, food of animal origin, feed, imports of animals, products of animal origin, veterinary drugs and animal welfare. Once the legislation has been adopted, the entities (including in Brčko District) are responsible for the enforcement with some oversight and coordination by the SVO, and reporting.

ii) Entity/District level

At each governmental level of BiH (entity/district, canton and municipality), designated authorities are responsible for food safety, animal health/welfare and plant health issues. Legislation has yet to define competencies more clearly to avoid overlapping responsibilities between administrative structures, which include ASF matters. The official controls are carried out by the RS/FBiH inspectorates and the inspectorate of the Government of Brčko District.

- *Entity Ministries of Agriculture, Water Management and Forestry*: These Ministries have the primary responsibility for the development and promotion of plant and animal production,

fisheries and hunting, agricultural land and forestry, the food industry and animal feed production, water protection, veterinary and phytosanitary matters, including public health protection for products of animal origin, up to the point when they are placed on the market.

- *Brčko District Department of Agriculture, Forestry and Water Management*: Within the Brčko District, the Department of Agriculture, Forestry and Water Management has broadly the roles described for the entity MoAFWMs. A sub department deals with veterinary certification, veterinary checks on products, animal feed and water, farm waste, use of veterinary medicines, controls on animal semen, ova and embryos. The sub department also maintains the registers of farms/animals on a regional and national level, monitors harmful substances/residues in food, and the introduction and development of the information system in the veterinary sector.

iii) Cantonal and municipal administration

In the FBiH, cantons have their cantonal governments and ministries. Similarly, to the organization of competent authorities at the federal level, there are veterinary sectors within cantonal ministries of agriculture and veterinary inspectorates. Some municipalities have veterinary inspectorates to which cantons have delegated official control tasks, reporting to their mayors and corresponding cantons. In municipalities without veterinary inspectorates, cantonal inspectors carry out official controls. There are four federal and 56 cantonal veterinary inspectors in the FBiH.

In the RS, there are 63 municipalities. Bigger municipalities and those with larger animal production have municipal veterinary inspectorates, while republic veterinary inspectors carry out other official controls. There are nine republic and 40 municipal veterinary inspectors in RS. In addition, approximately 50 authorized veterinarians carry out specific control tasks.

The Veterinary Inspectorate of the BD covers the entire territory of BD. Currently, three veterinary inspectors are employed by this inspectorate, which reports to the Mayor's Office of BD.

In entities and BD, specific official tasks such as meat inspection in slaughterhouses and controls in dairy establishments are carried out by authorized veterinarians from public or private veterinary organizations (stations).

iv) Sharing or delegation of activities to lower administrative structures:

- The entity of FBiH is divided into 10 cantons, each with its own government, and 80 municipalities. The government of FBiH shares or delegates some of its competencies with the cantonal administrations. Both the government and cantons have the right to determine policy and to adopt the laws that pertain to any of their competencies, including animal health measures. Where competencies are further delegated to the municipalities, the lowest administrative level, in general, their activities are financed and supervised by the cantons.
- The entity of the Republic of Srpska (RS) has no cantons and shares some of its competencies directly with 63 municipalities and a number of cities. The ethnically diverse
- Brčko District, comprising the entire territory of the former Brčko municipality, is a self-governing administration under the direct jurisdiction of BiH.

v) Veterinary Authority

Central Competent Authority (CCA) for animal health at State level is the State Veterinary Office (SVO), within the Ministry of Foreign Trade and Economic Relations (MoFTER). Within SVO,

responsibilities for animal health fall within the Animal Health and Welfare Department and the Animal Identification Agency with headquarters in Banja Luka coordinating nine regional Data Entry Offices (DEO).

The SVO has a role in coordinating the Entity and district veterinary services concerning drafting of the regulations and implementation of the uniform disease control measures (including methods and procedures), establishing uniform import/export policies, coordinating activities of the network of diagnostic laboratories, supervising the epidemiology situation, and preparing measures to prevent introduction of infectious diseases in BiH.

The SVO is also a central competent authority for the control of imports of animals and food of animal origin. Within it, the Border Veterinary Inspection Department carries out veterinary controls and surveillance at border crossings for goods/consignments at import, export or transit through the territory of BiH. Internal inspection at the entity/district level is the responsibility of the RS/FBiH inspectorates and the inspectorate of the Government of Brčko District.

vi) Animal Identification

The competent body for animal identification is the Animal Identification Agency located in Banja Luka responsible for the coordination of nine regional Data Entry Offices. Agency provides the forms, prints ear tags, maintains and improves the information systems and state database (DBP), issues the necessary documents (certificate and passport), provides training and education in the field of identification, provides the necessary information to other services related to the identification on the entire territory of BiH.

Veterinary Organizations (Veterinary stations) authorized for animal identification (i.e. trained and certified veterinarians) for Competent Authorities of entities/district perform the registration of holdings, registration of animal owners and keepers (legal or natural persons) and identification of animals. In case of animal movement, the animal should be accompanied by the following documents issued by authorized veterinarians: animal passport (for cattle only), animal health certificate and the Movement Form.

The animal marking system on a national level began with its implementation in BiH in early 2004, with several initiatives for its update afterwards, but here is no efficient system for identifying pigs and registering pig holdings at the national level.

At entity/district levels, such systems were developed during preparation of CSF eradication policy, namely in the RS. However, it is currently enforced mainly on commercial and some middle-size farms, where primary pig production is placed. However, it is not in place on back-yard holdings, which represent, according to interviews, 95% of pig holdings in BiH.

The registration of pig holdings and all possible changes related to the holding is performed the same way for holdings where cattle, sheep and goats are kept. Each owner/keeper of pigs on the farm is obliged to keep an updated register of animals on the farm for pigs. Register of livestock on the farms should be maintained, either manually or electronically, and must be always available at the request of the official veterinarian.

Regarding biosecurity on pig holdings, is it not regulated (legally required) nor there are established procedures. It was noted that biosecurity measures are not practiced at small farm and backyard holdings, while commercial farms implement it on high level. Veterinary authorities do not carry out biosecurity controls, nor evaluation of its implementation.

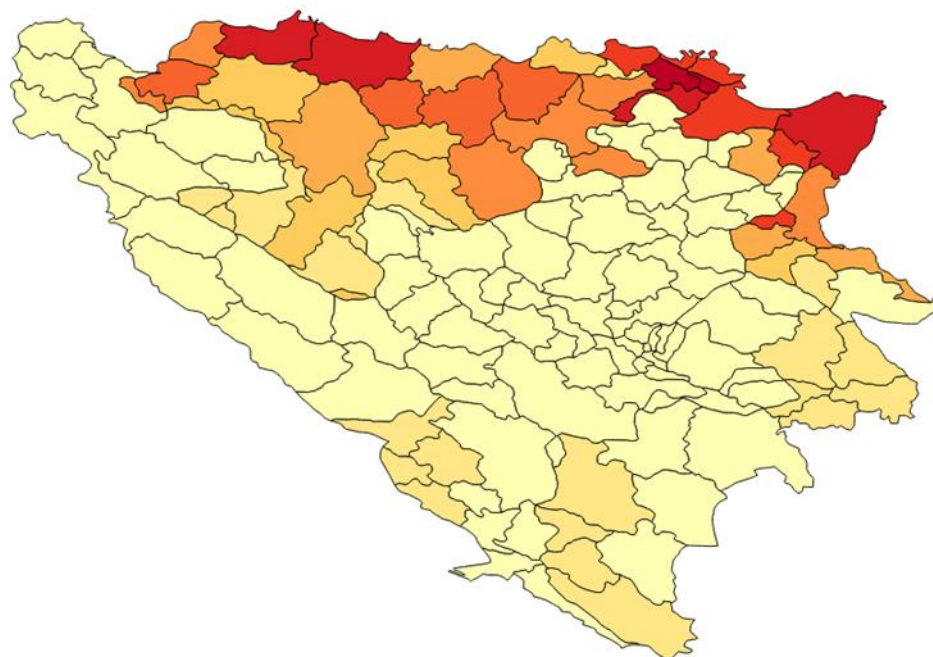
Pig population

According to available statistics²³ on the estimated number of livestock states in BiH, the total number of cattle was 427 000, pigs 545 000, sheep 1.085.000 and poultry 20.290.000. As far as breeding livestock are concerned, the number of cows and heifers is about 276 000, sows and gilt 74 000, yearling and breeding ewes 593 000.

Data collected related to the number of domestic pig farms, median number of pigs per farm, total number of registered domestic pigs. Source: SVO, The Surveillance programme (Annex 1).

	Total number of registered domestic pig farms	Median number of pigs per farm	Total number of registered domestic pigs
Republika Srpska	97	1 662,6	464 550
Federation of Bosnia and Herzegovina	47	≈664	≈31 243
Brčko District BiH	11	710	45 000
Total (whole country's territory)	155	≈687	≈543 793

Map below represent pig production in BiH, with density of pigs (the explanatory remarks for different colors is not provided, but higher color intensity means higher pig density):



Wild boar

There is no precise data on population of wild boar.

² <http://www.mvteo.gov.ba/Content/Read/poljiprivreda-i-ruralni-razvoj-stocarska-proizvodnja?lang=en>

³ <https://neighbourhood-enlargement.ec.europa.eu/system/files/2022-10/Bosnia%20and%20Herzegovina%20Report%202022.pdf>

Data on wild boar (Source: SVO, The Surveillance programme)

	Hunting ground capacity	Game use planned 2020-2021	Game use executed 2020-2021
Republika Srpska	8 660	8 303	2 408
Federation of Bosnia and Herzegovina	14 153	3 536	2 418
Brčko District BiH	No data	No data	No data
Total (whole country's territory)	22 813	11 839	4 826

vii) Laboratories

Animal health, public health and residue testing are done by a network of fourteen authorized veterinary laboratories. Of these, eight (8) laboratories perform diagnostic work in the field of animal health, and all fourteen laboratories perform some testing in the public health domain and testing for residues. For ASF, two laboratories are authorized to carry out specific tests, but none is designated as National Reference Laboratory for ASF yet:

1. Veterinary Institute "Dr. Vaso Butozan" in Banja Luka (NRL for CSF)
2. Veterinary Faculty in Sarajevo (NRL for AI).

Both laboratories implement quality assurance system in accordance with ISO standard 17025 and have some collaboration with EU Reference Laboratory on ASF.

viii) Legislation

The authorities have acknowledged that framework laws and other national legislation fully align with the EU acquis.

National legislative related to ASF is transposed from the Community acquis. There are two regulations on ASF: one adopted by Council of Ministers (implemented by entities of FBiH and BD, recognizing SVO as the CCA) and another adopted by Ministry of Agriculture of RS (implemented in RS, recognizing Ministry of Agriculture, Forestry and Water Management / Veterinary Department of RS as the CCA in this entity).

ix) Disease notification and reporting

The notifiable animal diseases that must be reported internationally are all the diseases from former OIE list A (including ASF) and some from list B as laid down in national legislation. The reporting flow goes from the local level to federal/district Veterinary Authorities and finally to the SVO office, which is responsible for declaring an outbreak and reporting to the international community and stakeholders.

The standard disease report is to be made within 24 hours to the World Organization for Animal Health (WOAH, founded as OIE), the Commission Services and competent veterinary institutions in all neighboring countries. Thereafter, on the first working day of each week, a follow-up report is to be submitted (as above) describing any secondary outbreaks.

x) African Swine Fever (ASF)

SVO, in close cooperation with experts from EU-funded project⁴, developed the “Programme for surveillance of African swine fever (ASF) and Classical swine fever (CSF) in Bosnia and Herzegovina” (hereinafter: The Surveillance programme) with aim to ensure regular and continuous surveillance of ASF and CSF (Annex 1).

II. African swine fever in wild boar

In wild boar, passive surveillance consists of reporting and sampling of each wild boar found dead (including road killed, agricultural surfaces, etc.). Each sample must be laboratory tested for both diseases. All hunted boars with pathological alterations typically for ASF/CSF must also be tested for exclusion of both diseases.

The estimated number of analyses on wild boar cadavers is calculated according to the data provided on population estimates and an assumed basic mortality of 2%.

Table 1: estimated number of dead wild boar samples to be analysed annually in the framework of passive surveillance of wild boars according to data provided by the different entities on wild boar populations (assumption of 2% mortality)

	Population estimate lower bound	Population estimate – upper bound	Assumed number of dead wild boars to be analysed [low-high]
Republika Srpska	2400	8000	48 - 160
Federation of Bosnia and Herzegovina	2400	14000	48 - 180
Brčko District BiH	Unknown	unknown	-

During the mission, no test results were available from the samples from the dead wild boars. However, virus spread within population couldn't be excluded.

First positive result in wild boar was confirmed on 15.7.2023 in Brčko district.

III. African swine fever in domestic pigs

The main objectives of the Surveillance programme, to be enforced by Veterinary Authorities of the entities (Annex 1), are full implementation of passive and active surveillance measures, which for domestic pigs includes:

- Daily inspection of pigs by the operator and prompt reporting to the official veterinarian of the signs of a disease, abortions and/or death of pigs;
- Notification of suspicion of CSF/ASF and mandatory investigation on a suspect establishment

⁴ Twinning project «EU support to capacity building and gradual Union acquis alignment in the veterinary sector of Bosnia and Herzegovina»

- Exclusion of CSF/ASF by virological tests in all of the following cases:
 - a) When five days of antibacterial therapy did not result in drop of body temperature (or resulted in a temporary decrease and recurrence of increasing body temperature of the pig) nor by improving the general health status of pigs
 - b) Abortion
 - c) If, by macroscopic examination or post mortem examination during slaughter, suspect signs of CSF/ASF are detected

Number of farms and samples per farm to be taken in the different entities in the framework of active surveillance of domestic pigs according to data provided on registered pig farms in the different entities and with different assumptions on t

	Assumption on minimal prevalence to be detected on farm	Assumption on minimal prevalence to be detected within farm	Number of pig farms to be sampled	Number of pigs to be sampled per farm	Total number of samples
Republika Srpska	0.01	0.10	94	30	2820
	0.01	0.30	94	10	940
	0.05	0.10	45	30	1350
	0.05	0.30	45	10	450
Federation of Bosnia and Herzegovina	0.01	0.10	47	30	1410
	0.01	0.30	47	10	470
	0.05	0.10	34	30	1020
	0.05	0.30	34	10	340
Brčko District BiH	0.01	0.10	11	30	330
	0.01	0.30	11	10	110
	0.05	0.10	11	30	330
	0.05	0.30	11	10	110

The first outbreak was confirmed on 22 June 2023, in Municipality Bijeljina, Dragaljevac Srednji, part of the Republika Srpska entity. By 14 July, 135 outbreaks were confirmed (29 in BD and 106 in RS), predominantly in Municipality Bijeljina. Between 5 – 15 new outbreaks are detected daily. The majority of the outbreaks was found in non-registered smallholder farms with very low biosecurity, but also larger farms with a pig population of 400 – 600 were affected. While there is no evidence of the involvement of the wild boar population, this is likely due to the negligible surveillance effort to find dead wild boar carcasses. Based on epidemiological data in other countries in the region if low biosecurity backyards are affected the wild boar population is also affected. Notification of ASF in wild boar in Croatia underline this hypothesis.

Lack of understanding of the country of the existing pig population is likely because vaccination for classical swine fever stopped in 2020. Afterwards, field veterinarians did not have any incentives to find and visit pig farms, while small scale pig farmers were not interested to receive subsidies and therefore did not ask for their registration within the national database.

As of 21. 7. 2023 it was detected in total 181 outbreaks of ASF in domestic pigs. Most of them were detected in backyard farms.

Number of outbreaks in domestic pigs and cases in wild boar – Summary as of 21. 7. 2023

Source of Data: ADIS

Administrative area	Result date	N. Outbreaks Domestic Pig	N. Cases Wild boar	Total
Brčko district	2023-06-28	4		4
	2023-06-30	7		7
	2023-07-01	3		3
	2023-07-03	2		2
	2023-07-04	4		4
	2023-07-06	3		3
	2023-07-11	5		5
	2023-07-13	3		3
	2023-07-15			1
Brčko District Total		31	1	32
Federation of Bosnia and Herzegovina	2023-07-17	5		5
Federation of Bosnia and Herzegovina Total		5		5
Repuplika Srpska	2023-06-22	1		1
	2023-06-24	2		2
	2023-06-25	5		5
	2023-06-26	4		4
	2023-06-27	7		7
	2023-06-28	4		4
	2023-06-29	5		5
	2023-06-30	6		6
	2023-07-01	4		4
	2023-07-02	4		4
	2023-07-04	4		4
	2023-07-05	6		6
	2023-07-06	6		6
	2023-07-07	7		7
	2023-07-08	7		7
	2023-07-09	3		3
	2023-07-10	3		3
	2023-07-11	14		14
	2023-07-12	11		11
	2023-07-13	10		10
2023-07-14	7		7	
2023-07-15	12		12	
2023-07-16	6		6	
2023-07-17	7		7	
Repuplika Srpska Total		145		145
Total		181	1	182

Biosecurity on pigs' holdings

Currently there is no legal background nor guidance is available in the legislation regarding biosecurity requirements for the domestic pig sector. Similar to the EU, operators should be obligated in the framework of the Animal Health Law to implement and maintain biosecurity measures. In the event of the incursion of a Category A disease, they are also obligated to isolate all animals suspected of being infected; keep the manure, including litter and used bedding, and any product, material or substance likely to be contaminated with and to transmit category A diseases isolated and protected from insects and rodents, kept animals of non-listed species and wild animals to the extent technically and practically feasible; and implement the appropriate additional biosecurity measures to avoid any risk of spread of the category A disease.

Therefore, will be extremely challenging to implement improvement of weak biosecurity in holdings with only the basic infrastructure with limited resources and lack of established procedures. It is necessary that the additional procedures should be established in relation to ASF occurrence. Their implementation will be extremely costly and time consuming.

Meetings during the mission

The mission started with a visit on 12 July morning to the Ministry of Foreign Trade and Economic Relations (MoFTER) of Bosnia and Herzegovina as the Central Competent Authority (CCA) for animal health at state level the State Veterinary Office (SVO) is within the MoFTER. The Chief Veterinary Officer (CVO) of the state, has given a brief summary of the ASF situation in the country. The entity Republika Srpska (RS) and Brčko District (BD) are affected by ASF. Outbreaks have been reported only in domestic pigs, no reports of ASF in wild boar. The Federation of Bosnia and Herzegovina (FBiH) remains unaffected so far. This is in line with the distribution of the pig population, as most of pig keeping occurs in RS and BD, while the FBiH due to cultural and ethnical reasons, has a much lower pig population. The meetings continued with a formal visit to the Minister's office. The Minister requested to receive technical, material and financial support from the international community due to the current emergency. He also highlighted that disease response occurs on entity level(s) and noted that, in line of the outbreaks in Croatia, the situation will require a cross border approach. He also mentioned that on the week of 17 July, a meeting between the Ministers of Croatia, Serbia and Bosnia and Herzegovina will take place to discuss the current ASF situation.

Meeting at Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina



The next meeting was in Sarajevo, meeting entity level CVOs (Marijo Vrebac, FBiH and Dragan Knezevic RS) and relevant staff. The ASF in the country can be described as an active epidemic with a steep epidemic curve having 10 – 15 outbreaks reported daily. The reporting officer (RO) would like to note that pig population and outbreak datasets were requested several times, but no written information was handed over to the team, therefore deeper analysis was not possible on spot.

Discrepancies were noticed in the emergency communication channels between state, entity and canton level that is causing delay in establishing zoning and notification to the World Animal Health Information System (WAHIS) as the number of confirmed and notified outbreaks diverged substantially.

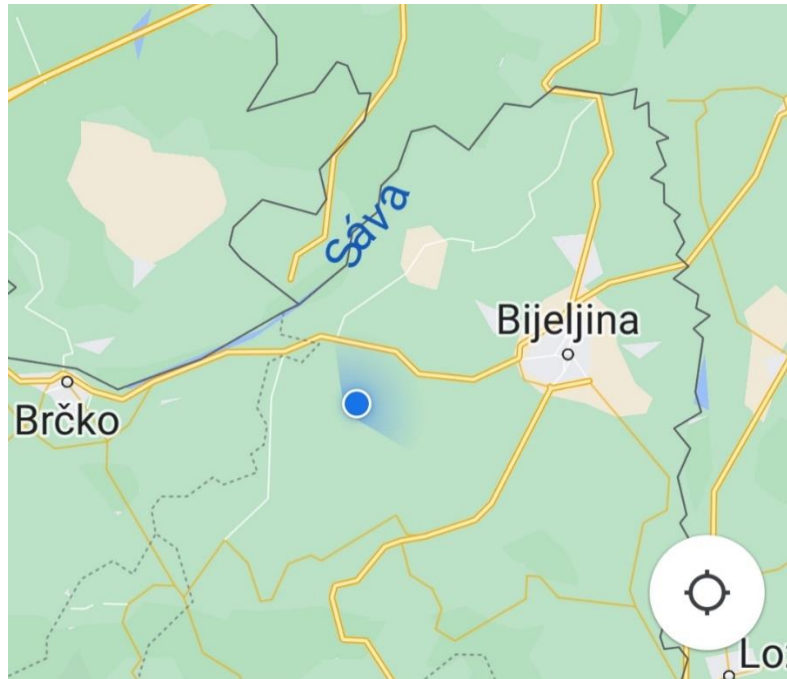
The team travelled on 12 July early afternoon to Bijeljina where the team met staff involved in response, ranging from official veterinarians, civil protection, police, hunters, farmers. The Team was informed that around 80 outbreaks were reported and the main measure is stamping out of affected farms. Hunters explained that four healthy wild boars were hunted to determine if wildlife is affected, but animals tested negative with PCR. No dead wild boar was found. Attending veterinarians could not give an explanation to the origin of the outbreak, but based on the discussion, various risk factors were uncovered: fenced but not confined pig keeping, natural mating of domestic pigs, frequent visits among pig owners to each other's establishments, home slaughter of animals, sharing of equipment and general low biosecurity, including non-registration of pig farms. Detection of new cases is based only on farmers' passive disease reporting. Confirmation of ASF is done by PCR in the Veterinary Institute in Banja Luka (RS). Samples are taken from the correct sample matrixes (blood, spleen). One-two samples are submitted from infected farms. Killing of animals is done via lethal injection (T-61) or by penetrative captive bolt. Disposal is done by deep burial either on the spot (40% of the cases) or by transport to the closest fenced community pit (60% of the cases). Compensation was not paid yet to any pig owners, but procedures have started.

Meeting in Bijeljina on 12 July 2023



Later afternoon same day, two experts from the team carried out on-the spot visit of the index case. The farm had close to no biosecurity, the fence was destroyed and enabled access of wild boar. The farmer also took his sows for natural mating to nearby villages and no personal biosecurity was applied. The owners applied for compensation and is currently waiting for the decision of the authorities.

Location of the first outbreak, Dragaljevac Srednji, municipality Bijeljina



The team visited on 13 July morning Brčko District to meet with official veterinarians, inspectors and wildlife managers. The team was informed that around 22,000 – 23,000 pigs are in DB (which equals to a density of 46 pig / km² which is the highest in the country) with 12 veterinarians. Out of the 29 outbreaks in BD, 22 were reported in the same village. It was explained that each day new outbreaks were detected in the village and the veterinarians had to return multiple times to kill affected animals. At the time of the mission, 5 backyard farms and 3 commercial farms remain unaffected in the affected village. Samples are sent for confirmation to Banja Luka. Regarding wild boar, the staff explained that the current population is unknown, and hunting is not possible in BD due to legal issues. No dead wild boar was found in the area of BD. Only 8 forest wardens are employed without added incentives to search for dead wild boar carcasses.

The team visited on 13 July the afternoon the Veterinary Institute (VI) in Banja Luka. The VI checks between 15 – 20 samples for ASF daily that are from suspect cases (samples are not pooled) and in average 85 samples per day (pooled) to check animals for immediate slaughter. The maximum capacity is 200 samples per day, but the current diagnostic supplies are projected to last for two more weeks, before they run out. Representative of the veterinary office from RS were also present. They explained that RS is the most affected region with circa 30,000 pigs located within the protection and surveillance zones. Currently all movement from zones is banned and enforced with police (including non-susceptible species). Census in the zones is foreseen, but current workforce is needed to follow up suspicions and to carry out stamping out of infected farms, therefore there is no spare capacity to conduct a census. When asked about legal background on biosecurity, apparently there are no legal clauses or guidelines for pig farm biosecurity.

The team visited on 14 July morning the VI in Sarajevo. The VI operates independently from the VI in Banja Luka as there is no appointed National Reference Laboratory for ASF in the country. While the VI in Sarajevo has the capacity to test 100 PCR samples / day as there are no suspicion samples submitted to test. The representative of the veterinary services for FBiH explained that the largest pig population of 4500 – 5000 pigs is located in Posavina Canton (this is a pig density of 15 pigs / km²). This Canton is very close to the affected regions and border Croatia. No outbreaks have been reported. The risk factors uncovered in other areas also persist here. The wild boar population numbers were not available, but it was disclosed that there are 109 hunting association in FBiH. No dead wild boar was found in the past years.

The closing meeting was conducted on 14 July in the Office of the SVO. The preliminary recommendations were presented, and the participants agreed with the findings. During discussions with the CVO on what support they would welcome from the international community, emphasis from the CVO was on material assistance (payment of compensation, provision of diagnostic kits, sampling equipment, personal protective equipment, mobile incinerator), but also long-term issues such as improving the biosecurity of farms, improving the current animal waste management system and education and training of veterinarians and farmers. Based on experience, virtual learning efforts were unsuccessful in BiH.

Preliminary Findings and observation of the mission

Working hypothesis of the spread of the ASF in domestic pig population

- Based on the local investigation, it seems to be a highly probable hypothesis for the spread of ASF primarily through the movement of infected pigs, or indirectly through contaminated meat products. According to a personal communication, there are close contacts with neighboring states and there is also an active trade exchange. Although there is a lack of more accurate data on the population of wild pigs and intensive hunting is not carried out here, it is clear that this is an environment where wild pigs are found and, with regard to the low level of biological safety in farms, wild pigs have direct and indirect contact with domestic pigs. Therefore, the hypothesis of ASF transmission via wild pigs cannot be ruled out. Considering the high infection pressure in the area, the unknown epidemic situation in wild pigs and the ongoing harvest, it is also necessary to consider the risk of spreading the disease through contaminated feed, straw and hay.

Surveillance and eradication requirements are set in legislation and procedures.

Information has been collected and reported to WOA in transparent manner.

Outbreaks were found out within the framework of passive surveillance. Suspicions were reported by the farmers

Sava river – border with Croatia



Landscape in infected area



Recommendation:

1. Crisis communication and coordination between State Veterinary Office, Entity veterinary authorities and laboratories should be improved. (long way/delay of information flow). In order to share information, it would be appropriate to create a unified national information system for sharing information on the results of laboratory tests, the epidemic situation, the pig population and the movement of pigs.
2. ASF operation Task Force including the CVO from central and Entity levels, and their animal health officers, should be fully operational, to harmonize and coordinate implementation of prevention and control measures on the whole territory of the country (“one ASF policy”) and transparent in terms of communication results of their work and decisions with other authorities, partners and the publics.
3. Animal identification and registration system (legislation and procedures) are in place in terms of legislation and written procedures. In practice, big commercial pig holdings are registered and approved by Veterinary Authority of the entities. However, expert team noticed that majority of suspected and confirmed backyard farms and animals were not registered and identified, confirmed by national representatives during the meeting. Identification of pigs in whole production system, Registration of pig holdings supported by IT system and animal movement control must be significantly improved in Bosnia and Herzegovina.
4. In addition, categorization of pig holdings based on biosecurity level should be established (e.g. commercial farms, family farms, backyard holdings). The minimum biosecurity requirements or guidelines, based on the livestock production systems should be developed and elaborated. Pig keeping should be in line with biosecurity requirements and supervised by the competent authority. When the pigs are introduced in the registered empty holdings, they should be allowed to restock or to introduce the pigs only if the minimum biosecurity measures are implemented.
5. During establishing the surveillance and protection zones, by the Veterinary Authority size of the zones could/should be enlarged based on results of epidemiological investigation, epidemiological links and distribution of the confirmed outbreaks, particularly under current circumstances. Especially in the case of multiple outbreaks (cluster) in area. Eradication and stamping out measures in the holdings and in infected areas should be applied based on the outcome of the on the epidemiological investigations
6. In reaction to the current epidemiological situation and the current pig raising conditions (mainly in the backyards without biosecurity), the depopulation of the unsafe pig holdings / farms following the compensation to owners, in the radius set by the competent authority. should be taken into account to avoid the further spread of the ASF due to the secondary outbreaks.
7. Inspections of pig holdings should take place in the areas where ASF is present in wild boars or was detected in domestic pigs and were backyards/commercial farms continuing their activity. Frequency of the control should be defined by CA based on risk assessment. This area can be further extended based on a risk assessment carried out by the competent

authority. During the inspection, the veterinarians should control the identification of pigs, and the biosecurity of the farm and perform a verification of the owner data while performing a census of the pigs. In case of any suspicion samples for laboratory testing could be taken. CA can delegate this action to private veterinary stations, with adequate resources and tools (e.g. budget, evaluation questionnaires, training participation, checklists). It is recommended to carry out the controls made by private veterinarians under official veterinarians' supervision. Data about controls performed by private veterinary stations should be collected by CA.

8. We recognize that compensation is foreseen for the farms already stamped out, we encourage that a fair and timely compensation system is applied in the country.
9. Detection of ASF is overly reliant on reporting of disease suspicions by pig owners. However, the introduction of additional surveillance activities, such as enhanced passive surveillance is encouraged. It is recommended not to use active surveillance for ASF early detection and not to test the collected blood samples for ELISA, but to enhance passive surveillance and to target sick or dead pigs and all the samples should be tested by PCR. We strongly advise full implementation of the Surveillance program, and its regular revision in close collaboration with all national authorities and relevant stakeholders (e.g. hunters, farmers).
10. Procedure of passive surveillance in wild boar population is in place, but during the year 2022 and 2023 no suspected wild boar (found dead or roadkill) has been sampled and tested. Incentives for reported found dead could improve passive surveillance in the wild boar population, and thereby provide more information on areas where domestic pig holdings are at higher risk.
11. Communication among services and all stakeholders on all levels needs to be considerably improved. It is a critical point for the successful control of ASF. Wildlife biologists/experts, foresters and hunters should be involved, to enable a clear understanding of the wild boar population (estimated numbers, densities and habited areas) in the country.
12. Continuous strong reduction of the wild boar population is highly recommended all over the country and throughout the whole year. Reduction of the wild boar population must be particularly considered and applied in the territories around the big industrial holdings. All methods with proven efficiency for the reduction of the wild boar population (including trapping of wild boar, and additional hunting equipment) are recommended to be applied.
13. Laboratory capacity (reagents, equipment, quality assurance) should be replenished and planned for a long-term period to ensure continuous detection of ASF. It is recommended to designate NRL on ASF, which should participate in proficiency testing and collaborate with regional reference laboratories and partners (EU, WOA, FAO, IAEA)
14. The level of awareness targeting the pig farmers, hunters and the public, in general, should be increased, using all available tools primarily focussing on mass media (TV and radio), local newspapers, trying to disseminate the information on the disease itself and the measures on how to prevent the ASF and to whom to report any suspected cases in the domestic pigs and in wild boars.

15. Continuous training and education for the commercial pig farmers, managers, and veterinarians employed on such farms on key knowledge of ASF, transmission ways, clinical signs, ASF prevention, surveillance and control measures, biosecurity on pig farms, and during the trade is necessary.
16. Movement of non-susceptible species from affected and non-affected farms located within the restriction zones (protection and surveillance zones) should be based on risks assessment and national legislation.
17. Recommendations of the Standing Group of Experts⁵, under the regional GF-TADs mechanism, should be considered by Veterinary Authorities as very relevant for Bosnia and Herzegovina, with the active participation of its representatives in all upcoming meetings as a full member after the first outbreak.

Final Remark

The working atmosphere during the mission was very positive. The Bosnia and Herzegovina colleagues were transparent in providing the information and gave support and assistance to facilitate the mission.

Annex 1: Programme for surveillance of African swine fever (ASF) and Classical swine fever (CSF) in Bosnia and Herzegovina



ASF_CSF_Programm
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⁵ <https://rr-europe.woah.org/en/Projects/gf-tads-europe/standing-groups-of-experts-on-african-swine-fever-in-europe/>