

Rapid opinion 09-2020 of the Scientific Committee established at the FASFC on the reassessment of the risks of African swine fever spread in wildlife and introduction in Belgian pig holdings associated with a conditional resumption of various activities in forest.

Question

In view of the current epidemiological situation, namely the African swine fever virus (ASF) circulating in the wild fauna (wild boar) in the south of Belgium, the management measures applied since September 2018 to control or eradicate the disease, the socio-economic impact on the forestry sector and the presence of storm wood in the area due to the recent storms, the Scientific Committee is requested to issue a rapid opinion on the following two questions:

1. After about two years of management measures to control and possibly eradicate the ASF epidemic in Belgian wild animals, what is the remaining risk of spread of the ASF virus in wild animals related to infected wild boar and their carcasses and the activities mentioned below?

- Activities of the logging sector, in particular the following activities:
 - a. Soil preparation, including fertiliser application;
 - b. Planting or exemption of seedlings;
 - c. Pruning of branches;
 - d. Marking of trees for thinning out;
 - e. Forest exploitation (other than for the management of conifers infested by the spruce bark beetle);
 - f. Tillage, in the sense of mechanised tillage;
 - g. Manual clearing of plantations (brushcutter);
 - h. Mechanized clearing of plantations (flail mower);
 - i. Topiary;
 - j. Thinning;
 - k. Work for collecting firewood (private logging, etc.).

Specifically, for this sector, the activities necessary for the maintenance of forested environments that may be affected by extreme climatic conditions (e.g. recent or upcoming storms).

- Activities in the tourism sector, i.e. forestry activities as referred to in the SciCom opinion 10/2019 of May 2019, to which will be added the seasonal activities of the youth movements and those relating to campsites located in the region.
 - Activities of the hunting sector, in relation to a possible reopening of hunting on 1 October 2020, as well as the resumption of all activities necessary for its operation and the management of all other wildlife in the region (monitoring and counting of animals, repair and installation of hunting posts, mowing of shooting lines, baiting).
 - Activities of the agricultural sector, including the use of cereal stocks harvested in zone II in 2019 and subsequent years.
2. In view of the risks assessed in the first question, for which activities, if any, could the management measures be relaxed and under which conditions?

Method

As the mandate concerns elements of risk management, the Scientific Committee carried out a preliminary risk assessment. This risk assessment was carried out as a matter of urgency based on expert opinion. A systematic literature review could not be carried out within the time available. A new ministerial decree of the Walloon Region is being prepared to replace the current text, which expires in May 2020 (for this new text, which is not yet available, a provisional emergency opinion was also issued on March 2nd, 2020 - the final version of this emergency opinion will be issued by the Scientific Committee during the plenary session of 20 March 2020). Not all the information and data on the actual epidemiological situation on the ground were fully available or could be discussed and analysed within the timeframe for drafting this rapid opinion. Based on this risk assessment, risk management options (which are concrete answers to the management questions raised) are presented in the form of recommendations.

The Scientific Committee also launched a self-tasking dossier (SciCom 2019/11) in which a semi-quantitative risk assessment was carried out of different transmission routes for the introduction and dissemination of ASF on/between Belgian pig holdings. This ranking was established by conducting a survey among national and international experts. During the activities within this file, a hearing was also organised with all stakeholders involved in or affected by the ASF epidemic. However, the opinion on this file has not yet been published. However, certain elements of this semi-quantitative risk assessment have been taken into account for the risk assessment in this rapid opinion.

Risk assessment

The Scientific Committee considers that the epidemiological situation of ASF in wild fauna has evolved favourably since its last opinions (Rapid opinions 09-2019 and 10-2019). The Scientific Committee considers that, based on the elements provided by the risk managers during the hearing for its self-tasking dossier (dossier SciCom 2019-11), the apparent incidence of new cases has significantly decreased. Indeed, since August 2019, only wild boar bones that were PCR viropositive (i.e. positive in PCR analysis for the detection of the genetic sequences of the virus) have been detected. The management measures are mainly preventive (network of fences) and proactive (detection and removal of carcasses, reduction of the wild boar population).

During the research for the self-tasking dossier, the Scientific Committee also carried out a semi-quantitative risk assessment of the different transmission routes of the ASF virus for its introduction in pig holdings in Belgium. The routes related to the sector covered by the request for this rapid opinion, i.e. forestry work, were classified as much less at risk than other transmission routes.

In addition, the Scientific Committee currently estimates the probability of the spread of the ASF virus in wild fauna as 'low', and the probability of its introduction in pig holdings as 'very low'. However, such an occurrence would still have serious consequences given the economic impact of the loss of official ASF-free status.

The Scientific Committee has identified some uncertainties in the context of this assessment. These include:

- the exact number of wild boars before the start of the epidemic and the number of remaining wild boars;
- the ASF status of wild boar still living in the infected area and their potential role as virus carriers and virus excretors (persistently infected);
- the persistence of virus infectivity in the carcasses and bones of wild boar and in the different types of vegetal matrices that can be fed to pigs;
- the dating of wild boar carcasses and bones.

Subject to strict compliance with the measures set out in the recommendations of this opinion, the Scientific Committee believes that allowing the resumption of forestry activities in the infected area would increase the initially estimated risk very slightly for the following reasons:

- for the risk of spread in wild fauna: the role of mechanical vector that can be played by humans and by the material used for the activities in infected forest areas, and the risk of disturbance to wild boar by these activities;
- for the risk of introduction to pig farms: the role of mechanical vector that can be played by humans as a result of their activities in infected forest areas.

Subject to strict compliance with the measures set out in the recommendations of this opinion, the Scientific Committee considers that allowing the resumption of hunting activities in the infected area slightly increases the risk initially estimated, for the following reasons:

- for the risk of dispersal in wild fauna: the role of mechanical vector that humans can play during hunting in infected forest areas and the risk of disturbance to wild boar by these activities;
- for the risk of introduction into domestic swine: the role of mechanical vector that can be played by humans as a result of hunting activities in infected forest areas.

The Scientific Committee is of the opinion that allowing the use of the cereal stocks remaining from the 2019 harvest and from the next harvest in 2020 onwards does not affect the risk of spread in wildlife, but rather the risk of introduction into the domestic pig sector. The Scientific Committee estimates this risk to be relatively high as a result of:

- the relatively high ranking compared to other potential transmission routes attributed to this transmission route in the semi-quantitative risk assessment in the self-tasking dossier (dossier SciCom 2019-11), where this relatively high ranking is related to the frequency of contact that pigs may have with this risk route (feeding) and its efficiency for the infection of the animal;
- the lack of data and the great uncertainty about the duration of viral persistence in this type of matrix.

Finally, subject to strict compliance with the measures set out in the recommendations of this opinion, the Scientific Committee also considers that allowing the resumption of tourist activities in the infected area slightly increases the risk initially estimated, for the following reasons:

- for the risk of spread in wild fauna: the role of the mechanical vector that humans can play during tourist activities in infected forest areas and the risk of disturbance to wild boar by these activities;
- for the risk of introduction into domestic swine: the role of mechanical vector that can be played by humans during tourist activities in infected forest areas.

Based on the fact that there are now very few cases of ASF in the wild (live wild boar or viropositive carcasses in a state of non-advanced decomposition), despite increased surveillance pressure, the fact that no fresh carcasses of viropositive wild boar have been detected by PCR since August 2019 and the strengthening of biosecurity measures on pig farms and based on circumstances caused by the ASF epidemic (in particular the socio-economic impact on the sector and the damage caused by storms), the Scientific Committee is of the opinion that:

- a conditional resumption of forestry work can take place;
- a conditional resumption of tourist activities can take place;
- a partial and conditional resumption of hunting related activities can take place in the event of a favourable development (i.e. no new wild boar or fresh carcasses that are viropositive based on PCR between now and October 2020, nor seropositive wild boar) of the epidemiological situation between now and the opening of hunting in October 2020;

- the cereal stocks of 2019 and the expected harvest in 2020 should be further diverted to sectors other than the pig sector.

This opinion should be reviewed in case of detection of a new fresh, shot or caught wild boar carcass found to be viropositive to ASF in zones I and II.

Recommendations

Recommendations relating to forestry work

The Scientific Committee recommends that for all forestry operations only local operators (i.e. professional operators in the forestry sector located in Zone II) should be used, as this will also reduce the risk of virus propagation at a distance during the transport of the material after disinfection. As far as professional forestry activities are concerned, it is recommended that both persons and equipment remain within a certain zone (zone I or zone II). It is advised not to exchange material or persons between zones until the epidemic in wild fauna has been completely stopped.

The Scientific Committee recommends that forestry work should not be carried out in places where visual evidence of the presence of live wild boar has been obtained, adding to this area a radius corresponding to the average habitat of a wild boar herd.

For operations with a lower risk of spreading the virus or disturbance of wild boar (smaller works such as manual work clean and exempt young plantations and natural seedlings, all manual felling work), the Scientific Committee recommends that risk managers make the resumption of work conditional on the carrying out of on-site prospection by public officials after November 6th, 2019 (date on which the prospection of carcasses for this season was intensified, which was facilitated in particular by the less dense vegetation).

For operations with higher risk (larger operations such as mechanised operations and removal), the Scientific Committee recommends that the risk manager should not authorise mechanised soil preparation and mechanised exemption by means of flail mowing. The Scientific Committee recommends that the resumption of the permitted higher-risk work should be subject to the prospecting of wild boar carcasses by government officials immediately prior to the commencement of the work.

The Scientific Committee recommends that the technical conditions for the reopening of activities in the forestry sector and the main conditions should focus on biosafety. This includes in particular:

- training in the disinfection of all material at the end of work (boots, shoes, clothing, machinery, tools, without being complete);
- an examination of the parcel before the work begins (visual search for possible carcasses by the operators themselves so that if a carcass of a wild boar is found (to be reported immediately via telephone number 1718), it will under no circumstances be approached or touched and the work will be stopped).

The Scientific Committee recommends that the same requirements apply to work aimed at clearing damage to forests caused by storms.

The Scientific Committee is of the opinion that although all boar carcasses/bones found on a forest site should be reported to the risk manager it is the sole responsibility of the risk managers, at present and in the future, to continue the activities related to the search for and removal of potentially contaminated boar carcasses/bones. The Scientific Committee recommends that the forestry sector ensures maximum support for the reporting of found carcasses or bones by explaining to its members and individuals the importance of this notification, i.e. an end to the epidemic in Belgium as soon as possible.

The Scientific Committee recommends that forestry work be carried out by professionals. At present, it is not recommended that the collection of firewood and all related operations, which are mainly carried out by private individuals, be resumed.

Recommendations regarding tourist activities

For hikers, the Scientific Committee recommends, as it did in its rapid opinion 10-2019, that certain essential conditions be respected (biosafety measures such as changing clothes and shoes after a hike in the forest, staying on paved paths and not going deep into the forest, except on recognised marked paths). The Scientific Committee still recommends banning the presence of dogs when hikers walk in Zone II (infected).

For camping, the Scientific Committee recommends restricting this activity to existing camping sites and making the activities they offer subject to compliance with the rules mentioned for hikers.

For youth camps, the Scientific Committee recommends to limit the activities they could carry out in the forest by respecting the mentioned rules for hikers. The Scientific Committee recommends that the risk managers should make camp managers aware of the safety risks to young people associated with the eradication activities and of their responsibility to comply with biosafety measures. However, the Committee points out that there is a real risk that children will be less likely to comply with the proposed biosafety conditions.

Recommendations regarding hunting activities

The Scientific Committee recommends that at present only hunting of species other than wild boar should be allowed again. The Scientific Committee recommends that the permitted types of hunting should be as little disruptive as possible to wild boar. The Scientific Committee recommends prohibiting the presence of dogs during such hunting. It is recommended that the activities related to preparations and repairs necessary for the next hunting season be made conditional on compliance with measures to disinfect clothing, boots/shoes and tyres of vehicles that have penetrated deep into the forest. It is also recommended to provide biosecurity training for hunters and handlers during hunting.

Recommendations concerning agricultural activities and cereal stocks

As in the urgent advice 14-2019 and attending more consistent scientific data, the Scientific Committee recommends:

- to prohibit the use of plant products produced in zones I and II for the feeding of pigs (including heat-treated plant products);
- to prohibit the use of plant products produced in zones I and II for the feeding of species other than pigs if the traceability and segregation of these plant products cannot be guaranteed;
- to prevent any cross-contamination, on the level of both operators and dealers, of batches prohibited for feeding to pigs with other batches during transport, storage and processing by means of complete segregation between the two types of feed;
- in the case of pig farmers, to prevent joint storage or mixing feed intended for other species with feed intended for pigs through complete segregation between the two types of feed.

The Scientific Committee recommends that in ASF regulated areas, fields should be inspected for the presence of wild boar carcasses before harvesting.

The Scientific Committee recommends that equipment used for harvesting feed in the ASF regulatory area should be thoroughly cleaned and disinfected before use outside the area. This is in line with similar recommendations with regard to the cleaning and disinfection of vehicles used for forestry activities in rapid opinion 09-2019.

The Scientific Committee recommends that, where this treatment option exists, plant production in the ASF Regulatory Areas should be heat treated for at least 30 minutes at a minimum temperature of 70 °C before being used as feed for animals (other than domestic swine).

Recommendations relating to surveillance

The Scientific Committee recommends that all wild boar shot or caught in zones I and II undergo the following sampling and testing protocol in addition to the conventional PCR test:

- a survey should be carried out to determine whether or not the animals have had contact with the virus in the past. The combination of the (estimated) age of the animal and its serological status can give a good indication of whether or not the virus is still circulating. According to the legislation in force, a positive serological test must be notified, especially if it is an index case. In the event of a proven epidemic, these data constitute an epidemiological tool rather than a health risk.
- At the same time, samples of tonsils should also be taken from these animals for analysis using PCR;

The Scientific Committee also recommends that the status of an animal for ASF virus infection should be reviewed internationally when it is seropositive during an epidemic. Indeed, an animal is serologically positive for a much longer time than the duration of virus persistence and this does not allow dating of the infection. A significant absence of serology in zones I and II would be an additional guarantee for the return of the country to a free status.

Recommendations relating to scientific research

The Scientific Committee recommends:

- that an attempt be made to determine residual infectivity in PCR-positive wild boar bone marrow still found in the field. This should allow a better quantification of the actual risk of contamination for surviving wild boar in relation to this specific material based on its condition. In a similar way as for whole carcasses, it is recommended to determine the real attractiveness of this specific material for wild boar showing necrophilic behavior;
- conducting research and/or collecting available data to better determine the age of carcasses. There are advanced techniques in forensic medicine that may be used in this case;
- conducting studies and/or collecting all available data to assess the possibility of persistent infected wild boar and their potential for excretion. This could be achieved by experimental infection, but also by detection of antibodies in apparently healthy hunted or slaughtered individuals;
- carry out the necessary studies to quantify and characterize the risk of ASF virus infected feed and the persistence of the virus during the storage processes used under Belgian conditions;

Conclusions

The Scientific Committee is of the opinion that the epidemiological situation of ASF in wild animals has evolved favourably since its last opinion on this subject (Rapid opinion 09-2019). The Scientific Committee is of the opinion that, based on the elements gathered during the activities of its self-tasking dossier (dossier SciCom 2019-11), the apparent incidence of cases has decreased (no new viropositive carcasses have been found since August 2019 and no more viropositive wild boar have been shot or caught). Other elements also lead the Scientific Committee to assess the risk of ASF virus spread in wildlife as 'low' and the risk of ASF virus introduction in domestic pigs as 'very low'. However, the severity of the consequences of such an event remains high given the economic consequences of the loss of the official ASF status.

A number of scientific uncertainties have also been identified which make the risk assessment based rather on a lack of evidence rather than proven facts.

The Scientific Committee is of the opinion that management measures that have a socio-economic impact on the different sectors of forest activities in the infected region could be relaxed. This opinion is valid under the current circumstances of the ASF epidemic in wild boar in Belgium and could be reviewed in case of detection of new fresh carcasses, killing or capture of wild boar found to be positive for ASF in the infected region and the vigilance zone (zones I and II) or serological indications for a continuous spread of the virus.

The Scientific Committee has taken note of the biosecurity measures proposed by the risk manager to frame this facilitation and validates them. In its recommendations, it also proposes additional risk management options.

The Scientific Committee also draws attention to the continuing priority of eradicating wild boar and removing their carcasses and bones in Zones I and II. However, care should be taken to ensure the safety of those who will participate in the different types of activities in the forest. All measures to strengthen the involvement of the different actors in the discovery of carcasses are encouraged.

The Scientific Committee draws attention to the fact that any facilitation of management measures in the event of an unresolved epidemic involves a de facto slight increase in risk. As in the urgent advice 05-2019, the Scientific Committee draws the attention of the risk manager to the fact that humans, tools, equipment or other animals may be mechanical carriers of the ASF virus due to activities in forests of ASF infected areas. It is the responsibility of the risk manager to remind the actors involved in forest operations of their responsibility to restore the officially free ASF status in Belgium as soon as possible. It is also the responsibility of the competent risk manager to make pig farmers aware of the risk of introduction and of the importance of applying biosafety measures regarding visitor hygiene and strict compliance with access conditions. Reinforced monitoring of the level of animal health should also be continued.

Finally, the Scientific Committee insists that a high level of surveillance should be maintained throughout the country. Indeed, in addition to the risk of re-introduction discussed in this opinion, there is also the risk of progression and introduction via the spread of the epidemic in Eastern Europe (positive wild boar detected at the end of January 2020 at 12 km from the German-Polish border).

The full text is available on this website in dutch and in french.