

Part 1 of 2 - Ability of different matrices to transmit African swine fever virus

EFSA Panel on Animal Health and Welfare (AHAW)

Summarized by the MSHMP team

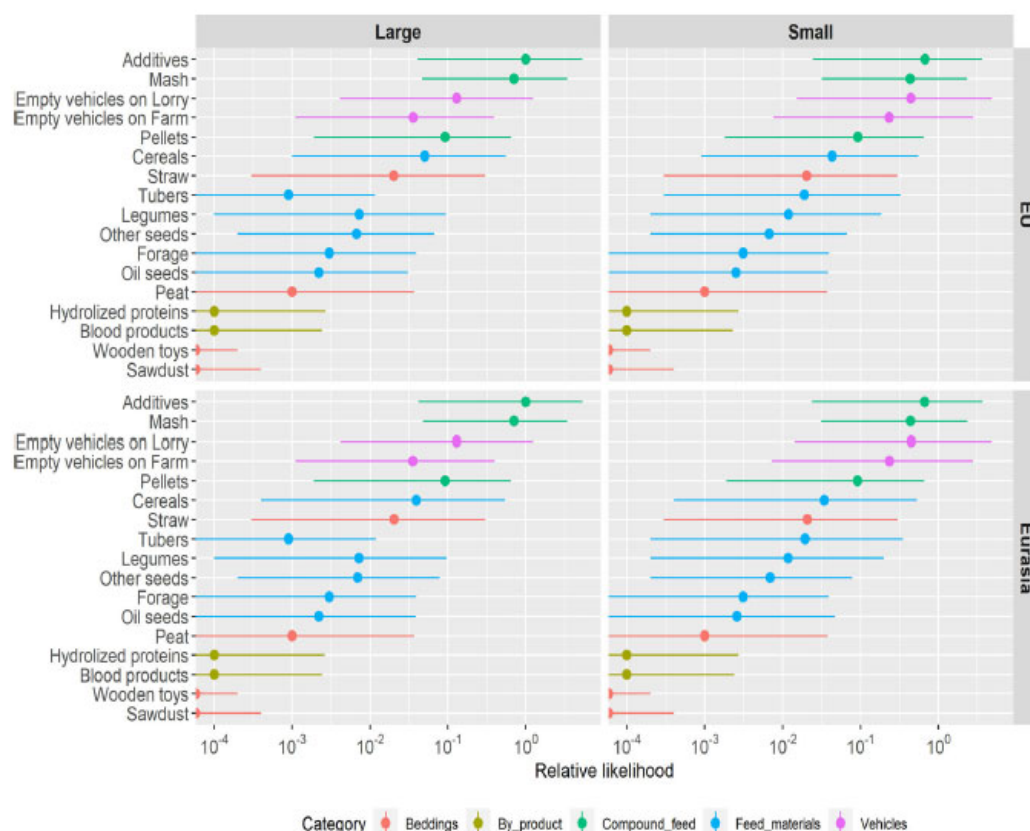
ASF is still a risk globally and the Panel on Animal Health and Welfare (AHAW) of the European Food Safety Authority (EFSA) published an opinion on the risk of the virus entering into non-affected areas of the EU. Here, we summarize the section of the opinion addressing the relative risk of ASF introduction and transmission into non-infected areas via the introduction of different matrices, namely different feed (e.g., cereals, oil seeds, legumes, compound feed, and feed additives), enrichment/bedding materials and empty vehicles.

Several components were modeled as part of the overall modeling of the relative risk of ASF entering a non-affected area of the EU. The first component is the *Likelihood that a single farm delivery of a product will contain a dose of infectious ASFV, which is large enough to cause an infection in at least one pig on the farm ('q')*.

To determine the likelihood of each product to introduce ASFV into a non-affected area, matrices were ranked based on their risk through a model incorporating: **a)** the capability of ASFV to survive in a given matrix at a high enough infective dose, estimated based on a literature review and expert consultation; **b)** the probability for contamination of the matrices, and **c)** volumes traded (within EU) or imported (from Eurasia), these last two based on expert knowledge elicitation (EKE).

Values of **q** were calculated for small-scale farms (< 100 pigs/< 50 breeding sows) and for large-scale farms (> 99 pigs/> 49 breeding sows). Results are shown in the figure 1.

Figure 1: Ranking of matrices based on the likelihood of a farm delivery of a product to contain a dose of infectious ASFV large enough to cause infection in at least one pig at the farm (**q**). Feed additives have the maximum value of risk, the other products risk is expressed relative to feed additives (e.g. the risk of introducing ASFV to a **large-scale farm** by the importation of **pellets** is **10 times lower** than the risk estimated for **feed additives**).



The results suggest that some products such as tubers and empty transport vehicles, have a higher risk when the final destination is a small-scale rather than a large-scale farm, because of the perception of lower levels of biosecurity on smaller non-commercial farms. Certain feed or bedding materials are not traded over long distance or between affected and non-affected areas. For such products, the likelihood of leading to an adverse outcome is reduced for the non-affected area, but cannot be ruled out for establishments that are in close proximity to affected areas.

For vehicles returning from other countries, the risk can be reduced by controlling whether the vehicle has transported pigs to or within affected areas, and through controls of cleaning and disinfection of trucks (certificates and visual inspection). For trucks driving back and forth between affected and non-affected areas, reduction of the risk for the farm at which the animals are loaded onto the truck, can be achieved by loading pigs from assembly centers or transportable loading docks at some distance from the farm.