

SPRAY DRIED PORCINE PLASMA:

International Feed Safety Agencies Agree Properly Processed Spray Dried Plasma Does Not Represent a Risk of Spreading ASF.

The spread of African Swine Fever (ASF) across Europe and Asia as well as its recent discovery in the Dominican Republic has heightened concern regarding the biosafety of Spray Dried Plasma (SDP). Biosafety of SDP has been evaluated by multiple international feed safety agencies. Consistently, the agencies conclude that if the ingredient is processed properly, SDP does not represent a risk of spreading ASF.

INTERNATIONAL RISK ASSESSMENT

European Food Safety Authority (EFSA), Parma, Italy, 2021¹

In 2021, EFSA conducted and published an assessment to determine the risk of transmitting ASF via feed ingredients. The risk assessment included data from published papers on viral survival in cereals, oilseeds, legumes, tubers, forages, blood products and porcine protein hydrolysates. Three independent expert groups conducted the assessment in three steps:

- Evaluating the probability of contamination of a product
- The probability that the contaminated product has enough viable virus to infect a pig
- Assessing the volume of trade or imports of each product from an affected area in the EU or from Euroasia that would reach a small or large-scale pig farm in a non-affected area.

This model estimated the risk of different feed ingredients spreading ASF to a pig farm. In general, the model showed that properly processed feed ingredients represent a low risk of spreading ASF.

Spray dried porcine plasma and other blood products were categorized among the safest feed ingredients and did not represent a significant risk of spreading ASF, mainly due to the stringent regulatory and processing conditions that blood derived products must undergo before use in animal feed.

French National Agency for Food Safety (ANSES), Maisons-Alfort, France, 2019²

In 2019, ANSES published an assessment of the risk of the spread of the ASF virus by carcasses, animal by-products and by animal feed. Blood products in compound feed for piglets and for pet food were assessed among other possible routes for the ASF to spread. It was concluded that properly processed, spray dried porcine plasma and hemoglobin do not represent a risk of spreading ASF to pig farms.

RECENTLY PUBLISHED RESEARCH PAPERS

Centre de Recerca en Sanitat Animal (Cresa-IRTA), Barcelona, Spain, 2021³

A recent publication (Blázquez et al., 2021) showed that either spray drying (200 C° inlet temperature, 80 C° outlet temperature) or UV-C treatment of liquid porcine plasma reduced over 4 logs ASFV added to the liquid porcine plasma.

Fredrich-Loeffler-Institute, Greifswald, Germany, 2021⁴

German researchers (Fisher et al., 2021) contaminated spray dried porcine plasma (SDPP) with 5.66 log₁₀ / g ASFV. Infective ASFV was not detected after being held at room temperature (21 C°) for 14 days.

Centre de Recerca en Sanitat Animal (Cresa-IRTA), Barcelona, Spain, 2020⁵

Two studies (Blazquez et al., 2020) examined the potential for ASFV contamination of commercially collected porcine plasma to infect pigs with ASFV. Commercially collected liquid porcine plasma was contaminated with serum from an ASFV infected pig. The contaminated liquid porcine plasma was added daily to feed for 14 consecutive days providing 10^{4.3} or 10^{5.0} TCID₅₀ ASFV (Studies 1 or 2, respectively). After the feeding period the pigs were observed for an additional 5 or 9 d (Study 1 or 2, respectively).

In these studies pigs exposed to ASFV contaminated liquid plasma added to feed did not become infected.

Conclusion

The conclusion of multiple risk assessments is that properly processed, spray dried porcine plasma and hemoglobin are safe feed ingredients. Blood is only collected from healthy animals approved as fit for human consumption by veterinary inspection, which automatically excludes clinically sick animals. The manufacturing process includes multiple hurdles validated to inactivate significantly more ASFV than what would be found in a single infected pig during peak viremia.

References

- ¹<https://www.efsa.europa.eu/en/supporting/pub/en-9994>
- ²ANSES Report available upon request
- ³<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0249935>
- ⁴<https://onlinelibrary.wiley.com/doi/10.1111/tbed.14192>
- ⁵<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0235895>