

TECH REPORT | Swine

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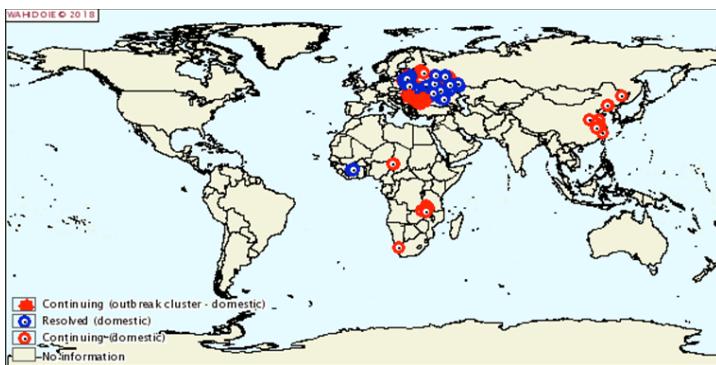
African Swine Fever

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African swine fever (ASF), a highly contagious viral disease of pigs, currently represents the biggest threat to the global swine industry. The disease has severe health and economic consequences, including complete depopulation, export bans and area movement restrictions. Historically, the virus was most commonly found in Africa; however, outbreaks have occurred since 2007 in Georgia and the Caucasus region, South America, the Caribbean and now China. The map below (Picture 1) indicates countries currently affected.

Picture 1: Countries affected by ASF

(Source: www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/Diseaseoutbreakmaps)



ASF affects only members of the pig family. Humans are not susceptible to the ASF virus (ASFV).

The virus is often introduced into a herd by the feeding of uncooked or undercooked garbage containing contaminated pork. Once infected, the virus is easily spread between pigs by direct contact or indirectly via contact with contaminated objects. Some species of ticks can transmit the virus, as well as blood sucking insects.

ASFV is highly resistant in the environment. Survivability of ASFV in different conditions is presented in Table 1 and Table 2.



Table 1: Survival of ASFV in different conditions
(Source: Adkin et al 2004)

Conditions	ASFV survival time	Source
Temperature of 50° C	3 hours	USDA, 1997
Temperature of 56° C	70 minutes	Mebus et al. 1998 in Foreign Animal Diseases
Temperature of 60° C	20 minutes	Mebus et al. 1998 in Foreign Animal Diseases
pH<3.9 or pH>11.5 (serum-free media)	Minutes	Mebus et al. 1998 in Foreign Animal Diseases
pH 13.4 in serum free media	21 hours	http://www.oie.int/esp/maladies/fiches/e_A120.htm
pH 13.4 with 24% serum	7 days	http://www.oie.int/esp/maladies/fiches/e_A120.htm
Blood stored at 4° C	18 months	Technical disease cards of Iowa State University, 2006
Blood on wooden boars	70 days	USDA, 1997
Putrefied blood	15 weeks	USDA, 1997
Faeces held at room temperature	11 days	Technical disease cards of Iowa State University, 2006
Contaminated pig pens	1 month	Technical disease cards of Iowa State University, 2006
Slurry at 65° C	1 minute	C. Turner and S.M. Williams, 1997

transboundary shipping models study are illustrated in Table 3. Producers can reduce ASF risks by avoiding importing materials from countries where ASF and other foreign animal diseases are prevalent. Other mitigation steps include storing ingredients and supplies at room temperature for an extended period of time and adding feed mitigation products to the feed. A total of 50 days storage time (30 days shipping and 20 days storage) is effective in decreasing the survivability of the virus.

If the disease was discovered in the U.S., the consequences would be catastrophic. Export markets would disappear, and swine movement would come to a halt. Per Dee et al., the estimated impact of the introduction of ASFV to the US would cost \$16.5 billion during the first year of the outbreak.

About the Author - Attila Farkas, DVM



Attila Farkas is a veterinarian with Carthage Veterinary Service, Ltd. (CVS). Attila joined the practice in 2016. Prior to joining the practice, from 2008 until 2016, Attila was employed by Texas Farm, LLC a farrow to finish swine operation in Perryton, TX.

Attila graduated in 2006 with a Doctor of Veterinary Medicine degree from the University of Agricultural Sciences and Veterinary Medicine in Cluj-Napoca, Romania. In 2013, Attila completed 33 weeks of Clinical Rotations in the Clinical Program in the Department of Veterinary Clinical Sciences at Oklahoma State University. In 2014, Attila has complied with the requirements of the Educational Commission for Foreign Veterinary Graduates. In 2015, he fulfilled the requirements of the Texas State Board of Veterinary Medical Examiners and was authorized to practice Veterinary Medicine and Surgery in the State of Texas. In 2016, he complied with the provisions of the Illinois Statutes and/or rules and regulations and became a licensed veterinarian in the State of Illinois. In 2017, he complied with the provisions of the Missouri and Iowa Statutes and/or rules and regulations and became a licensed veterinarian in the States of Missouri and Iowa. He holds professional Veterinary Licenses in Romania, Texas, Illinois, Missouri and Iowa.

Attila is certified through the National Pork Board's Pork Quality Assurance Plus Program and is a member of the American Association of Swine Veterinarians, American Veterinary Medical Association, Texas Veterinary Medical Association, Illinois Veterinary Medical Association and Romanian College of Veterinarians.

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