



NAST PHL SCIENCE ADVISORY

African Swine Fever in the Philippines

SUMMARY

African Swine Fever (ASF) has wreaked extensive damage on the Philippines' swine industry with its rapid transmission and a 100% mortality rate. With thousands of pigs dying from ASF, including those culled as part of prevention efforts, the National Academy of Science and Technology Philippines (NAST PHL) welcomes the government's temporary measure to import pork to reduce the spiraling cost of pork.

NAST PHL advocates greater science technology and innovation (STI) to address ASF and other transboundary diseases, including reliable, fast and affordable test kits, the development of a database for epidemiological surveillance, domestic and international border controls, and vaccine research and production.

ASF's greatest impact has been on backyard hog raisers, composed of poor and middle-income households who depend on the pigs for extra income as well as a safety net during crisis. NAST PHL therefore supports adequately compensating raisers for culled pigs.

Finally, NAST PHL calls for adoption of a One Health approach which links veterinary health, human health, and environmental health to control ASF.

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NAST PHL is the country's premier advisory and recognition body on science and technology. NAST PHL is an attached agency to the Department of Science and Technology.

Status of African Swine Fever in the Philippines

African swine fever (ASF), according to current data, is transmitted purely through pig-to-pig, pig-to-boar and boar-to-boar, as shown in Figure 1 (Gaudreault NN et al. 2020). No case of pig or boar to human transmission currently exists. While humans cannot be infected, the ASF has wreaked havoc in the Philippines with its rapid transmission and a 100% mortality rate. The disease was first reported in July 2019 and has since affected 12 regions, 46 provinces and 493 cities and municipalities in the Philippines (FAO 2021) with a new outbreak as recently as June 2021 (Manila Times 2021, BAI 2021]. On May 11, 2021, President Duterte declared a state of calamity in relation to the ASF epidemic (Rivas 2021). The ASF zoning status as of July 2021 (BAI 2021) in the country is shown in Figure 2.

The hog-raising industry, valued at about P260 billion (Phys Org 2021), has suffered the most with thousands of pigs dying from ASF, including those culled in prevention efforts. The public has been affected as well by dwindling pork supplies and soaring prices that reached a high of P400 per kilogram, almost the equivalent of the minimum daily wage in Metro Manila before the government-imposed price

control. ASF has its greatest adverse impact on backyard hog raisers, composed of poor- and middle-income households. These backyard piggeries provide additional protein in diets, and extra income for children’s education, and a safety net for crises such as the current COVID-19 pandemic. Monique Eliot, director general of the World Organization for Animal Health, has described the ASF-affected small hog raisers as being threatened by a “downward spiral of sustained poverty” (Phys Org 2021).

NAST PHL welcomes the compromise agreement reached by senators and sectors of the industry to import pork, bringing tariff rates down to 10% for three months, then 15% and 25% for the remaining nine months. The minimum access volume (MAV) will be 254,210 metric tons, down from the original proposal of 404,000 metric tons (ABS CBN News 2021).

Importations should be restricted only to ASF-free countries. The imports should only be temporary, even as the country launches longer-term measures to control, if not eliminate, ASF and to rehabilitate swine population. These measures address issues around biosecurity, veterinary public health and pathological research, and public education.

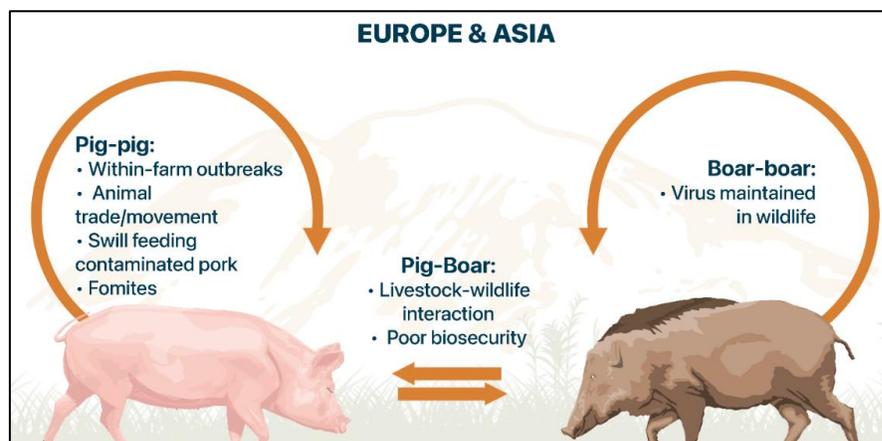


Figure 1. Schematic of ASF transmission cycle in Europe and Asia (Gaudreault NN et al. 2020).

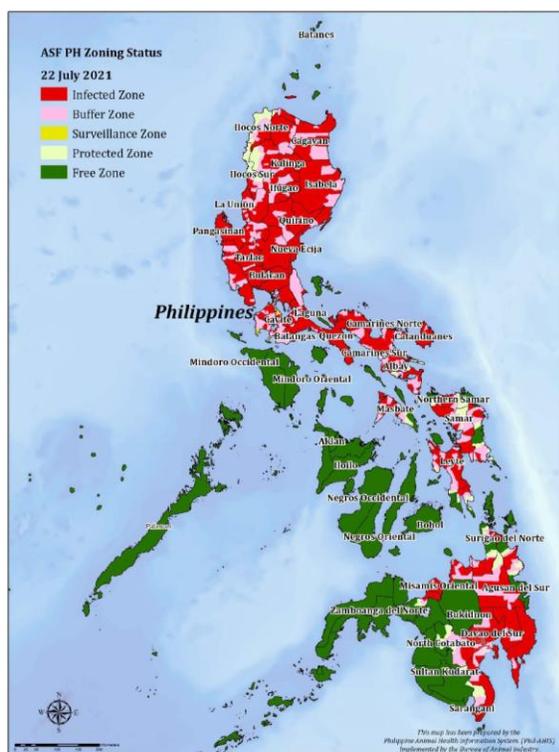


Figure 2. ASF Zoning Status in the Philippines as of 22 July 2021 (BAI 2021).

NAST PHL Recommendations

NAST PHL advocates to strengthen science, technology, and innovation to address ASF and other transboundary diseases.

First, reliable, fast, and affordable test kits are needed for early point of need (meaning, in the field) detection as well as genetic profiling of the virus. Results should be entered into a database for the development of an epidemiological surveillance system for ASF outbreaks and prevalence rates that will better guide our responses.

Second, studies are needed around the pathology of ASF in the Philippines. Ideally, infected tissues from culled animals should be studied for its histopathology and viral genetics — the latter particularly important to establish the ASF viral strains that have

entered the country but the policy in the Philippines is to immediately dispose of culled infected animals because of the fear of contamination. This makes the histopathological and viral genetic studies impossible to do but we should still explore tie-ups between private companies and government universities with veterinary medicine and animal husbandry to allow a safe and efficient way of conducting the histopathology and viral genomics.

Third, strict domestic and international border controls are needed. Very strict border controls were imposed by neighboring countries, with stiff penalties for travelers bringing in pork products of any kind. Such measures have helped to control the spread of ASF.

In the Philippine context, more attention needs to be given as well to the control of wild pigs, which have been implicated in several outbreaks.

Fourth, hog raisers need access to vaccines but due diligence is needed given that current scientific reviews of available vaccines still raise serious questions about safety and efficacy (Bosch-Camós et al.2020; Liu et al. 2019).

Fifth, we support government plans to compensate piggeries for culled pigs, **as well as their offers for loans (interest-free for piggeries and low-interest for commercial piggeries) for repopulation. These are welcome developments and we hope it will be tied to support services providing technical advice as well as oversight mechanisms to ensure accountability in the use of the public funds.** We also suggest learning from other countries’ experiences around repopulation and rehabilitation of the industry, including the experiences of China,

where the ASF control program had the unintended consequence of displacing small retail farmers (Siqi 2021).

Finally, we urge intensified public education around ASF, in a language that avoids scientific jargon and that can be understood by all and through all forms of information channels, including the internet and social media. There is so much misinformation going around about the disease. One common misconception is that humans can be infected by pigs with ASF. We need to correct this and point out that not only are humans resistant to ASF infections but are in fact the ones spreading the disease around by transporting infected pigs and pork products, swills (*kaning baboy*) in particular.

Showcasing model piggeries, both for large scale commercial and small backyard production, will be useful for public education. Alternatives to swills as feeds, which are affordable to backyard raisers, also need to be formulated and promoted.

Upgrading our biosecurity and improving our veterinary public health is not just for ASF but for future outbreaks, including those that might be zoonotic. ASF is seen mainly as a veterinary health problem but we need to demonstrate its wider context using a One Health approach (WHO 2017) which links veterinary health, human health and environmental health. Although ASF is mainly a veterinary problem, with no zoonotic links, it has repercussions for humans because its production mainly involves small backyard farmers who depend on their piggeries for added income and better nutrition.

ASF is also an environmental health issue, with wild pigs as an infection reservoir, and with the disposal of infected animals carrying potential contamination issues.

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ABOUT NAST PHL

The National Academy of Science and Technology Philippines (NAST PHL) is mandated to recognize outstanding achievements in science and technology and to serve as reservoir of competent scientific and technological manpower for the country (Presidential Decree No. 1003-A, December 17, 1976). By virtue of Executive Order 818 (July 16, 1982), the Academy was formally charged with the function of advisory body to the President and the Cabinet on policies concerning science and technology in the country.

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