



Economic Study: Impact of the Introduction of African Swine Fever in the United States

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ASF IMPACT
PREVENT AND PREPARE

What are the economic consequences of African swine fever (ASF) being introduced into the United States domestic or feral pig population?

A new economic modeling study³ conducted by a team of agricultural economists at Iowa State University and the Universidad de la Republica, Uruguay, estimated the economic impact of a hypothetical ASF outbreak by examining the elimination of pork export markets.

Export sales of U.S. pork were at an all-time high in 2019 at \$6.95 billion (5.89 billion pounds)⁴. Pork exports accounted for 26.9% of total 2019 U.S. pork production. The export value returns an average \$53.51 per head back to producers.

2019 U.S. Export Value

5.89 BILLION POUNDS EXPORTED

\$6.95 BILLION IN SALES

\$53.51 PER PIG ROI



STUDY BACKGROUND

U.S. Department of Agriculture's (USDA) risk assessment⁵ of the likelihood of a U.S. outbreak through legal importation of live pigs is low, and for swine products and byproducts it is moderate. The likelihood of the disease entering the U.S. through illegal entry of swine products and byproducts is HIGH and low for illegal entry of live pigs.

The study first established a baseline scenario, which represents the status quo (no ASF disease exists). Two scenarios are compared to the baseline to estimate the impact of industry downsizing on the U.S. economy.

- Two-year scenario – assumes the U.S. quickly gets the disease under control and reenters export markets within two years
- All-years scenario – assumes the disease spreads to feral swine and the U.S. is unable to eliminate the disease over the 10-year projection period; thus, exports never resume

KEY IMPACTS

Short-term

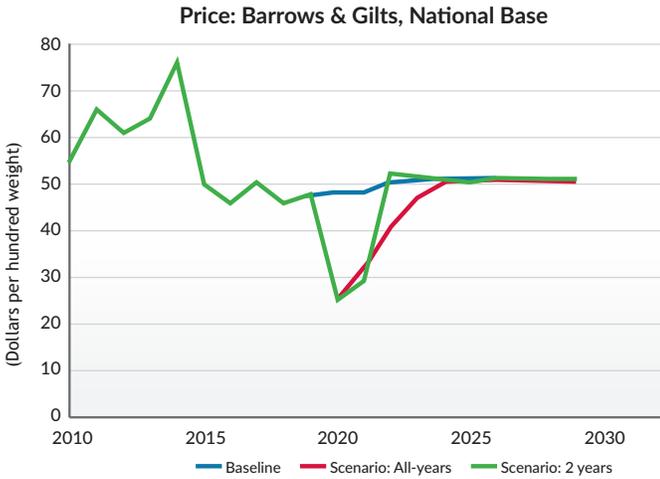
- Exports – immediate closure of international export markets to U.S. pork. Even ASF-positive countries prohibit the importation of pork from countries with the disease
- Prices – U.S. live hog prices see an immediate drop of 40% to 50%. The price reduction will help clear the surplus of pork intended for export
- Protein prices – oversupply of meat on the domestic market leads to price reductions throughout the value chain
- Feed prices – lower demand for feed grain will reduce prices

Long-term

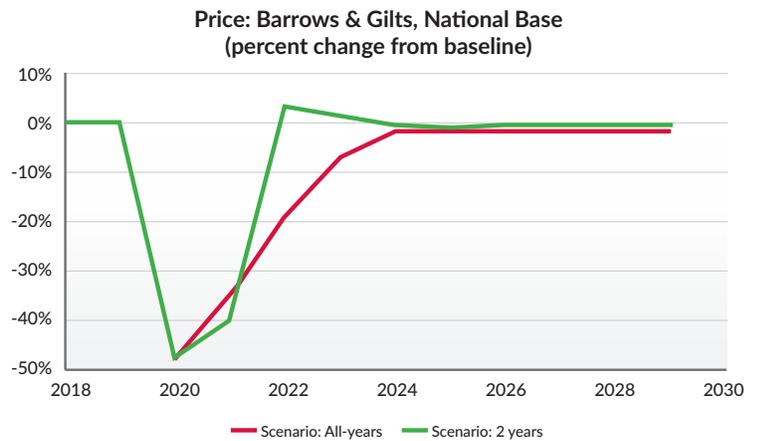
- Revenue losses – lower prices and quantities sold lead to a decline in pork industries revenues
 - Two-year scenario – \$15 billion in losses
 - All-years scenario – \$50 billion in losses
- Employment
 - Two-year scenario – minimal job losses at the end of 10 year
 - All-years scenario – 140,000 job losses at the end of 10 years; 22,000 lost jobs are in Iowa
- Swine industry downsizing
 - Two-year scenario – significant losses, but exports resume before downsizing occurs
 - All-years scenario – industry reduction after about five years and remains at a lower output for the remaining years

STUDY RESULTS

Impact of ASF on U.S. Live Hog Prices (Levels)



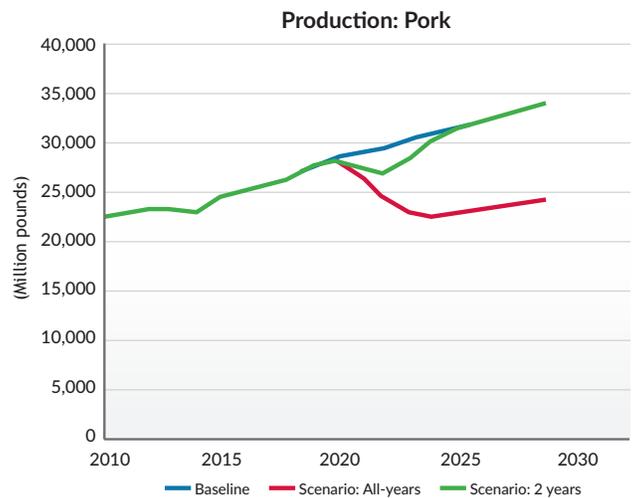
Impact of ASF on U.S. Live Hog Prices (Percent Change from Baseline)



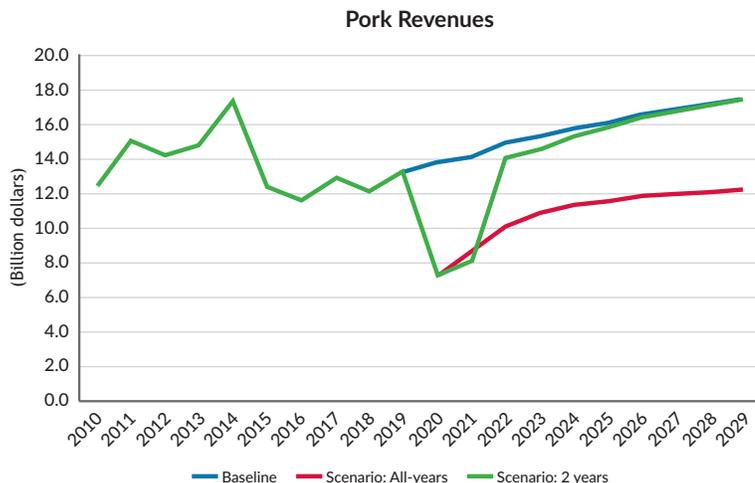
In the all-years scenario, hog prices fall by about 47% in the first year of the outbreak; however, prices eventually stabilize and are 1.8% lower than the baseline by the end of the 10-year projection period because pork exports continue to remain at zero (\$0). In the two-year scenario, hog prices initially decline by 47% and then start to climb back to baseline levels as soon as pork exports start to recover.

In the all-years scenario, pork production declines by almost 30% even as margins return to baseline levels. The two-year scenario shows a very small contraction in the industry over the long term, given exports eventually return to normal levels.

Impact of ASF on U.S. Pork Production



Impact of ASF on U.S. Pork Revenue



Comparing revenues between the baseline and the two scenarios shows a dramatic decline in the first few years. Revenues begin to rise in the two-year scenario but reach baseline levels only in the last three years of the projection period. In the all-years scenario, they remain well below the baseline and never recover.

IMPLICATIONS FOR THE PORK INDUSTRY

Results indicate the costs associated with an ASF outbreak are significant and require risk mitigation and safeguards to protect against the importation of the disease. If there is an outbreak, it will be critical to stop the spread of ASF quickly. This would allow the industry to regain export markets before downsizing occurs, thus saving up to \$35 billion in losses.



“Ensuring a two-year scenario versus the all-years scenario means a \$35 billion difference to the industry because we avoid downsizing. We need to have the science and data to get us back into export markets as quickly as possible.”

Howard Hill, DVM, PhD

TWO YEAR SCENARIO **\$15 BILLION** IN LOSSES

ALL YEARS SCENARIO **\$50 BILLION** IN LOSSES

For more information or to read the study, go to [ASFimpact.com](https://www.asfimpact.com).

The study was funded by Iowa State University and BarnTools, a digital biosecurity platform company; and is an update to “Economy Wide Impacts of a Foreign Animal Disease in the United States” published in 2011 and funded by the National Pork Board.



References

¹Universidad de la Republica, Uruguay

²Iowa State University

³Carriquiry, M., Elobeid, A., Swenson, D., and Hayes, D. (2020). “National and Iowa Impacts of African Swine Fever in the United States.”

⁴“U.S. Pork Exports Set Both Value and Volume Records in 2019.” Pork Checkoff, National Pork Board, 10 Feb. 2020, www.pork.org/news/u-s-pork-exports-set-value-volume-records-2019/.

⁵“Qualitative Assessment of the Likelihood of African Swine Fever Virus Entry to the United States: Entry Assessment.” APHIS, USDA, 2020, www.aphis.usda.gov/animal_health/downloads/animal_diseases/swine/asf-entry.pdf.

Photos courtesy of National Pork Board and the Pork Checkoff. Des Moines, Iowa USA.
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