Economic Impact of the Recent District Court Ruling Regarding Line Speeds on the U.S. Pork Industry

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Executive Summary

A recent federal district court order, if not addressed by the U.S. Department of Agriculture (USDA), will eliminate the ability of U.S. hog harvest facilities to operate at maximum line speeds allowed under a USDA rule implemented in 2019. The genesis of the rule was a pilot program introduced during the Clinton administration, which was further developed under the Obama administration, and completed during the Trump administration. Set to go into effect as early as July 1, 2021, the court ruling will have the following consequences for U.S. pork producers, who are still reeling from pandemic-related supply chain disruptions.

U.S. Pork Industry to Lose 2.5 Percent of Harvest Capacity

Six pork processing plants are currently operating at higher line speeds allowed under the new USDA inspection system. Five of these plants have been operating at these speeds for more than 20 years under the pilot program introduced during the Clinton administration. Even with possible mandatory overtime to compensate for lost capacity, the industry will lose 2.5 percent of overall harvest capacity under this ruling.

Lost Capacity to Cost Producers $83.2 Million; Small Hog Farmers to Bear the Brunt

Plant operators will implement mandatory overtime at impacted and non-impacted plants to address the lost capacity only if they have a financial incentive. This will come about via lower spot market prices.

Packers will likely use *Force Majeure* provisions to declare their pricing contracts with hog farmers null and void, forcing these farmers to sell their hogs on the spot market.

The pork industry recently faced similar circumstances when production outstripped available capacity. In the fall of 2019, when capacity was at the same level to be established with this court ruling, the spot price for hogs was $10.70/cwt lower than what farmers would otherwise have received. Given the similarities between market conditions in 2019 and the likely outcome of

USDA inaction, I expect hog farmers will lose an estimated $83.2 million due to capacity reduction and related fallout. Smaller producers who lack negotiating power, especially those located near the impacted processing facilities, will incur a disproportionate amount of these losses.

Court Ruling to Reduce Pork Industry Competition

When there is surplus of plant capacity, packers attempting to spread fixed costs will bid up the price of hogs even at the expense of their operating margin. When plants are at or near capacity, packers have the upper hand and will only operate additional shifts if there is a clear economic reason to do so. This reduces competition and the spot price of hogs. The court ruling will reduce pork industry competition.

Possible Worker Safety and Retention Risk

With the right financial incentive, packers will take steps to increase capacity, including mandatory overtime, a measure that could be counterproductive if carried out for a sustained period. Employees required to work longer days or all day on Saturday are more likely to resign, a challenge compounded by the industry's labor shortage. More importantly, worker safety risks could be elevated with long shifts.

Introduction

On March 31, 2021, the U.S. District Court for the District of Minnesota ruled that the USDA violated the Administrative Procedures Act (APA) when it failed to consider if increasing line speeds would harm workers. The lawsuit was initiated because the New Swine Inspection System (NSIS), implemented in 2019 following a 20-year evaluation period, allowed pork processors to increase line speeds. This report addresses the economic impact this ruling will have on U.S. pork producers.

Background

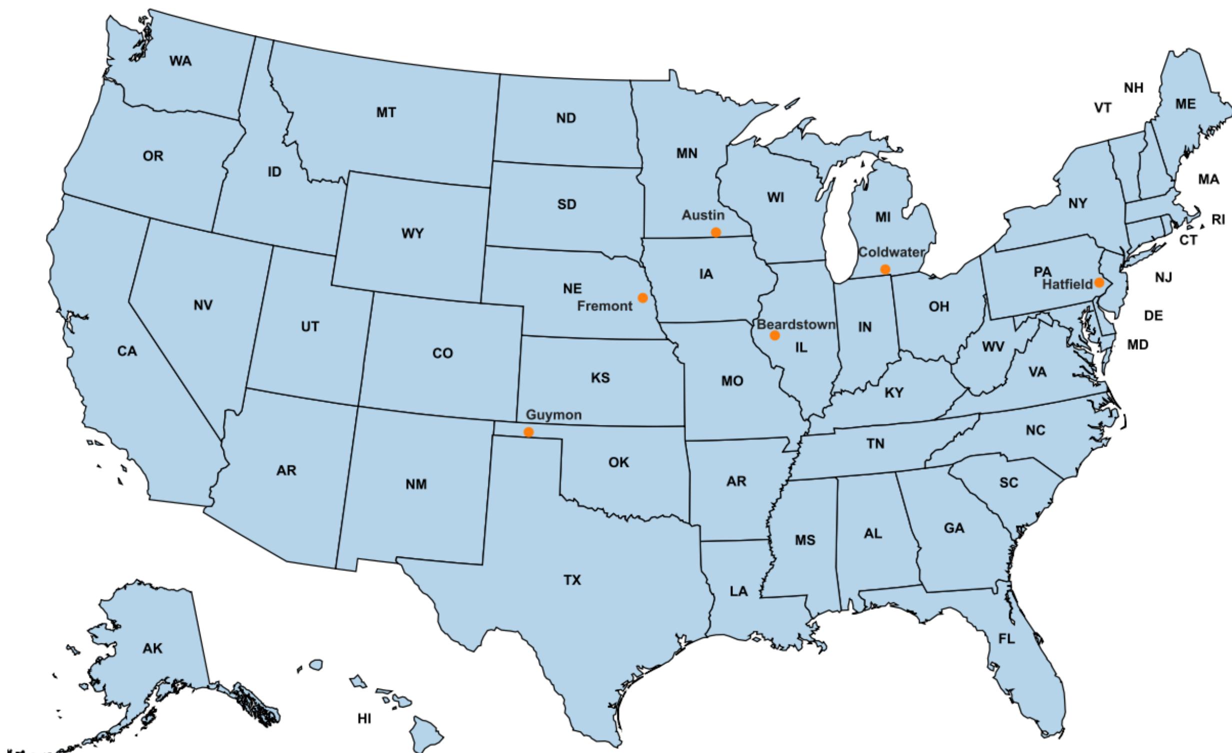
Some of the media reporting on this issue has inaccurately attributed the faster line speeds to decisions made under the Trump administration. In fact, five of the six plants affected by the court decision have been running at higher line speeds for decades. The other plant adopted higher line speeds allowed under NSIS following industry-wide USDA approval in 2019. Plans by other plants to adopt NSIS line speeds were delayed by the global pandemic.

The USDA summarized the history of the issue here. In 1997, under President Clinton, the HACCP rule (the foundation of modern food safety) was published and included provisions for testing new inspection models for various livestock and poultry plants. This served as the foundation for the HACCP-Based Inspection Models Project (HIMP). Five market hog plants entered the HIMP pilot program and began to operate at higher line speeds. After working for several years to develop a rule, President Obama's USDA Food Safety and Inspection Service (FSIS) published the Modernization of Poultry Slaughter Inspection final rule in 2014. Four years later, FSIS issued its proposed rule on Modernization of Swine Slaughter Inspection. This rule created an option for hog processing plants to transition into the New Swine Inspection System (NSIS). The rule was finalized in 2019 under President Trump. In addition to the five HIMP pilot plants, other packers now had the option to adopt the new inspection model or to remain in traditional inspection. Since then, three additional plants entered NSIS, but only one, the Seaboard plant in Guymon, Okla., has adopted higher line speeds. A second plant in Ottumwa, Iowa, was approved in March 2021. This plant has not yet increased line speed. There

is no line speed cap for NSIS plants, while traditional inspection is capped at 1,106 head per hour. The impact of the court ruling will be to slow line speeds that were generally developed and approved more than 20 years ago.

The Impacted Plants

The plants that will be impacted by the court ruling include the Seaboard plant in Guymon, Okla.; the JBS plant in Beardstown, Ill.; the Clemens plants in Hatfield, Pa., and Coldwater, Mich.; the Wholestone plant in Freemont, Neb.; and the Hormel plant in Austin, Minn. See map below:



Three of the impacted plants are near Iowa and three are far removed from hog farm intensive zones in Southern Minnesota, Iowa, and Illinois. Farmers who send hogs to the two Clemens

plants and the Guymon plant do not have readily available alternatives, requiring them to ship market hogs hundreds of miles if the nearby impacted plant cannot take their pigs.

The two other NSIS plants are not running over 1,106 head per hour and will not be impacted by the court ruling. These are located in Vernon, Calif., and Ottumwa, Iowa. A plant in Madison, Neb., was scheduled to convert to NSIS on May 15, 2021.

Impact of the Ruling on Plant Capacity

There are currently six pork harvest plants operating under NSIS at line speeds above the cap for traditionally inspected plants. These plants operate between approximately 1,225 and 1,450 head per hour, depending on the plant, with a combined weekly harvest of approximately 560,675 head. Collectively, these plants harvest one fifth of the approximately 130 million hogs annually harvested nationally.

Plant operators report that a facility operating at the traditional inspection maximum line speed of 1,106 will not average this number of head per hour as lines sometimes slow down for various reason, including equipment malfunctions. One plant operator reported an average of 1,065 head per hour prior to NSIS adoption. Another reported 1,090 head per hour before transitioning to NSIS. These averages were used to calculate a projected new line speed of 1,077.5 head/hour under NSIS. Under traditional inspection line speed caps, assuming no change to operating hours, the combined weekly harvest of these six plants would be 460,092.5, a reduction of 100,582 head compared to their current capacity.

A reduction of this magnitude in weekly harvest will give packers an economic incentive to change their operating hours. In discussions I had with senior management at the plants impacted by the court ruling, all said mandatory overtime could be adopted, but this would be counterproductive if carried out for a sustained period. Half of these plants already run two shifts per day, with shifts ranging from 8 hours (at one plant) up to 10 hours (at two plants). Employees required to work longer days or all day on Saturday would eventually quit. More importantly, worker safety could become an issue with longer shifts. They also cited the current agricultural

labor shortage and the challenge of recruitment. One impacted plant said their response would be to operate every other Saturday. This has already been factored into the capacity estimates above. Management of two other plants said they would not be able to add hours over and above those under which they already operate. One of the affected plants said they would have to reduce weekly harvest by 2,850. Two others said they would add an extra 1.5 hours of mandatory overtime to each shift.

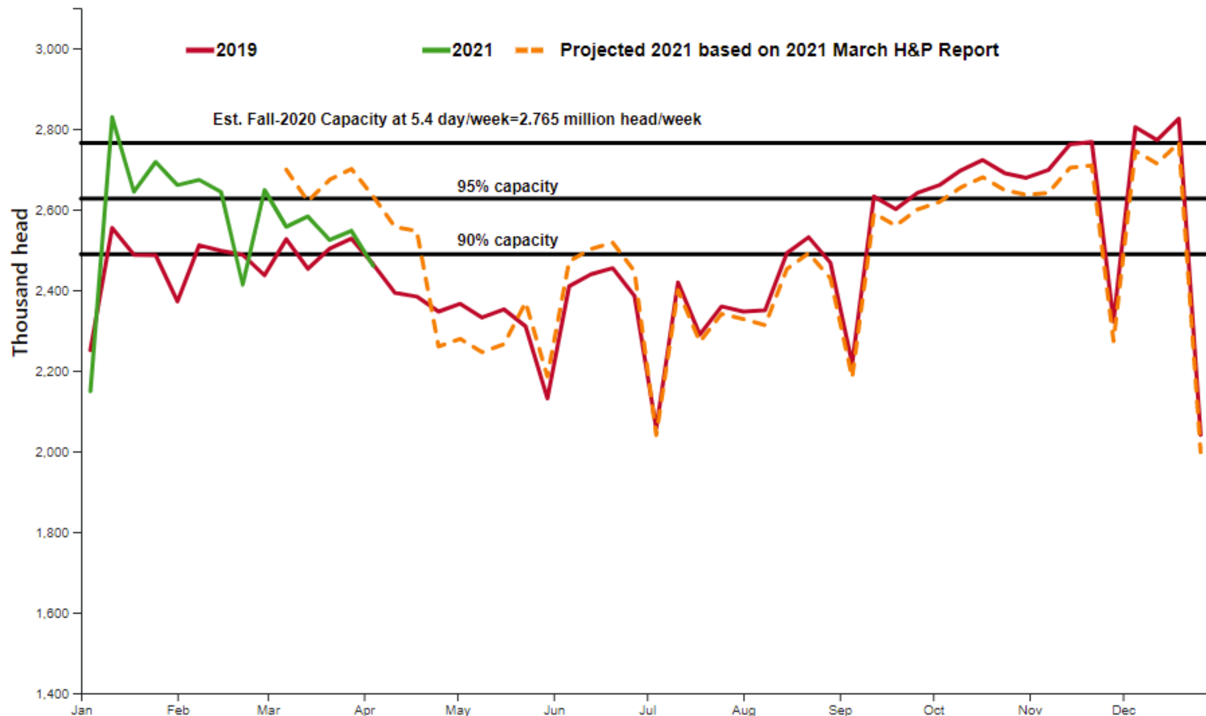
Factoring in the impacted plants' best response to the capacity challenge created by the court ruling, weekly harvest will still be only 489,748.75 head, a reduction of 70,926. This is 2.5 percent of the 2.765 million total national capacity.

Impact of the Ruling on the Hog Market

The impact of a 2.5 percent reduction in national capacity will depend on how close the industry is to capacity. If the industry is operating at 90 percent capacity and loses 2.5 percent, there will be a very modest negative impact on hog prices. However, if the industry is operating at 100 percent capacity and loses 2.5 percent, the surplus hogs will have very little value. Because this is a commodity market, this will lower the value of all spot-market hogs.

The Center for Agriculture and Rural Development (CARD) at Iowa State University maintains a web tool to predict how close the industry is to capacity. The red line in the CARD website image below shows actual harvest in 2019. The dotted orange line shows expected weekly harvest in 2021. These forecasts are based on breeding herd estimates and farrowing intensions from the 2021 March Hogs and Pigs report. It shows that expected 2021 fall harvest is just below the level observed in 2019. If capacity drops by 2.5 percent, the industry will need to run at 2019 levels or slightly higher in the fall of 2021.

Hog Slaughter, Federal Inspected, Weekly



Source: Center for Agricultural and Rural Development (CARD). 2020. "Hog Slaughter, Federal Inspected, Weekly." (Accessed 04/22/2021). See https://www.card.iastate.edu/covid-19/graphs/slaughter/

If capacity is reduced by 2.5 percent, the number of weeks at or above maximum capacity will increase. When this happens, packers will bid down the price of spot-market hogs, increasing their profit margins. This will incentivize the entire industry, not just the impacted plants, to run longer shifts and work more Saturday shifts. This packer response will ensure an orderly fall market and make it unlikely hogs will have to be euthanized. However, this adjustment will require a price incentive and it will come at the expense of hog farmers.

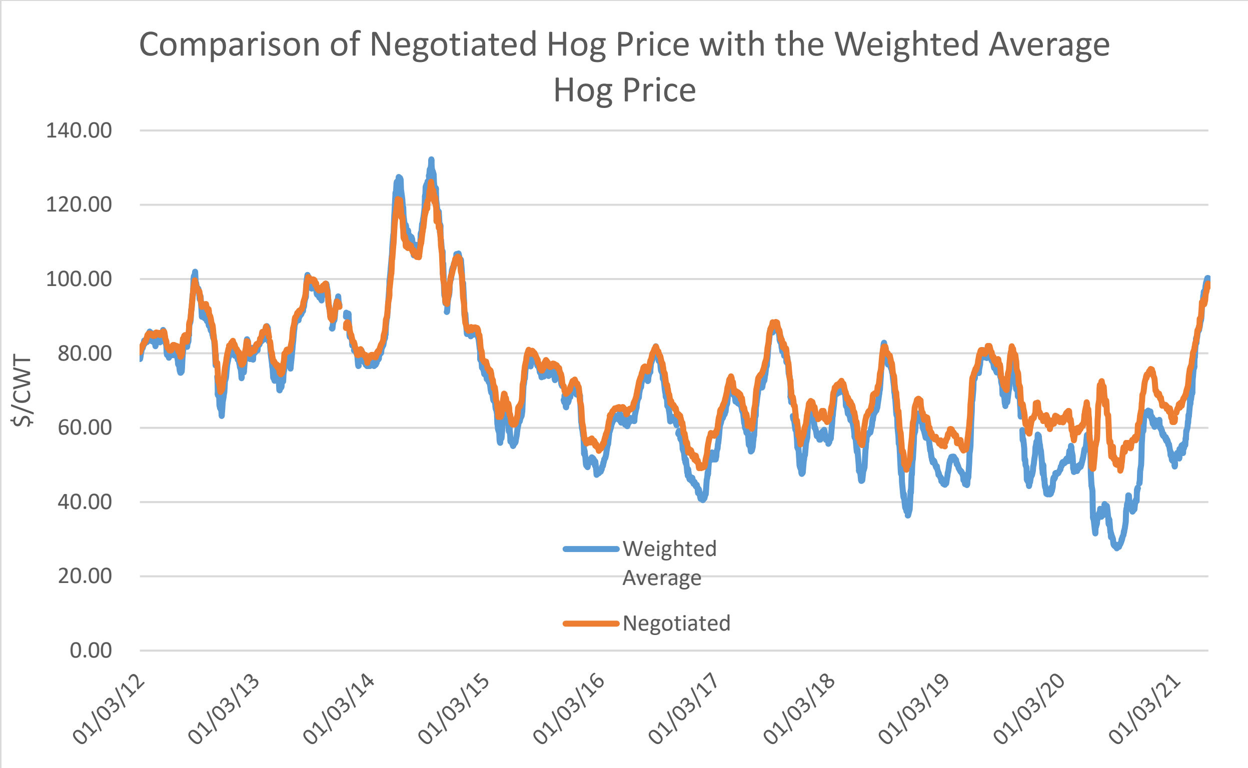
Impact of the Ruling on Farmers Who Supply Impacted Plants

The impacted plants will stop purchasing spot-market hogs and will likely use the ruling to implement *Force Majeure* on some contracts. The largest producers typically have ownership shares in plants, or cost of production or carcass cutout contracts. Packers are obviously wary of

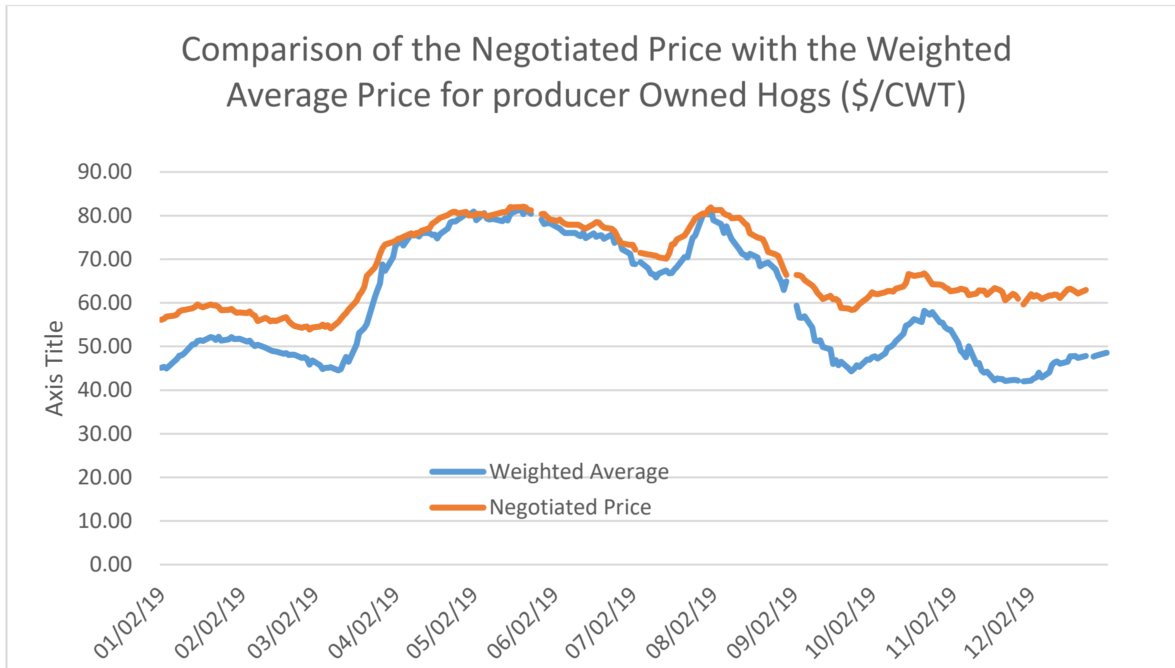
upsetting their largest suppliers. Therefore, the burden of the spot price reductions and the enforcement of *Force Majeure* will fall on smaller, non-integrated producers. These producers will need to ship hogs to the nearest plant with available capacity. In some cases, the journey will be hundreds of miles. For example, it costs about $10 per pig to ship from Michigan to Iowa. Faced with the availability of these displaced hogs, with plants already close to capacity, non-impacted plants will reduce the prices they offer to their smaller traditional spot sellers. Smaller producers will be disproportionality impacted.

Impact of the Ruling on Spot Market Prices

Again, the 2.5 percent reduction in capacity will create a market environment that is similar or worse than the fall of 2019. While not the pandemic-related disaster the industry faced in the spring of 2020, the 2019 challenges did negatively impact the spot market. The chart below compares the weighted average price of all producer-owned hogs against the negotiated or spot price back to 2012. It shows the two prices tracked each other up to 2015. The industry then experienced seasonal reductions in the negotiated price as capacity and labor issues emerged. These reductions in the negotiated price relative to the weighted average increased modestly over time until the pandemic supply-chain disaster experienced in the spring of 2020.



The next figure shows the same data for 2019 only. We see overlap between the weighted-average and negotiated prices in the April to September period, with a relative reduction in the negotiated price beginning in September. This reduction was driven by modest capacity and labor problems at the plants, and it impacted only producers who sold into the spot market.



The difference between the negotiated price and weighted-average price between September and December 2019 was $10.70 per CWT. Because the court ruling will likely recreate the capacity issues experienced in the fall of 2019, it is reasonable to predict a similar price impact. This impact will only be seen in producer-owned hogs sold in the spot market. A total of 23,897,370 producer-owned hogs were sold in the fall of 2020.

A key question is this: How many hogs will be sold on the spot market or on a formula based off the spot market? This depends on how many producers will be pushed onto the spot market using *Force Majeure*, a highly sensitive issue that cannot be predicted. When asked how many producers might be forced to shift to the spot market if *Force Majeure* was enforced, one plant predicted 150 farms; another estimated 100 farms.

Based on discussions with industry experts, a conservative estimate is that 15 percent of all producer-owned hogs will enter the spot market. An $83,230,955 producer loss is calculated as follows: 15 percent of 23,897,370 hogs multiplied by 2.17, to get to a 217 lb. carcass, multiplied by a reduced value of $10.70/cwt. This loss will not be felt evenly. Those most impacted will be smaller producers located near the impacted plants who will be forced onto the spot market, facing up to an additional $10 per head to transport their hogs to plants with available harvest

capacity. Smaller producers who sell to non-impacted plants will also suffer because they are most likely to sell on the spot market. Larger producers with negotiating power typically have carcass-based contracts and will not be impacted.

Impact of the Ruling on Competition

There is a clear relationship between plant capacity utilization and the degree to which packers compete for hogs[1]. When there is surplus capacity, as was true in 2014, packers attempting to spread fixed costs will bid up the price of hogs even at the expense of their operating margin. When the plants are at or near capacity, packers have the upper hand and will only operate additional shifts if there is a clear economic reason to do so. This reduces competition and the spot price of hogs. The court ruling will reduce pork industry competition.

Impact of the Ruling on the Future of the US Pork Industry

The United States has the world's most competitive pork industry. As a result, U.S. pork exports have steadily increased for decades. This upward trend in exports has the potential to continue because African swine fever (ASF) has decimated pork production in Asia. Exports currently account for about 28 percent of U.S. pork production. In years when plants are not at capacity, an increase in exports raises the prices packers pay for hogs so that they can meet export orders. This is true for hogs sold on the spot market as well as carcass-based contracts. This dynamic provides producers with the incentive to expand.

No new hog processing plants have been introduced since the beginning of the Trump administration due to uncertainty related to trade wars. NSIS provided a solution for plant capacity because it enabled packers to expand capacity without building new plants. The court ruling has eliminated this solution and the opportunity for expanded exports and production until new plants can be built.

[1] See https://www.porkbusiness.com/news/industry/nalivka-economics-capacity-and-utilization-0

There has been discussion over the last two years related to adding more, smaller packing plants in order to facilitate geographic diversity and foster competition. Some have suggested that expanded capacity can be achieved by incentivizing state-inspected facilities to work toward meeting federal standards. I estimate that these facilities represent only one percent of national capacity, far below the estimated 2.5 percent reduction that will result from the court order.

My analysis is short-term. If this order is rectified so that new plants are permitted to adopt NSIS line speeds as intended by USDA, pork harvest capacity in the U.S. will expand. This will create more competition and more opportunities for U.S. hog farmers.