

Testimony of Jayson L. Lusk, Ph.D.

on the issue of

“State of the Beef Supply Chain: Shocks, Recovery, and Rebuilding”

before the

**U.S. House Committee on Agriculture
Subcommittee on Livestock and Foreign Agriculture**

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Chairman Costa, Ranking Member Johnson, and Members of the Subcommittee, thank you for inviting me here today. I am a food and agricultural economist and I serve as Distinguished Professor and Head of the Agricultural Economics Department at Purdue University.

I will begin by providing some background on some of the economic factors that have contributed to the volatility in cattle and beef markets in recent years. Then, I will shift my focus to three economic issues currently facing the beef cattle industry: packing capacity and resiliency, price discovery, and the importance of trade and innovation.

For the past couple years, beef and cattle markets have been extraordinarily turbulent and volatile. Major events include the loss of a major packing plant to fire in 2019, demand-induced disruptions from COVID-19 resulting from the decline in restaurant spending and the spike in grocery spending, supply-induced disruption from COVID-19 resulting from the worker illnesses in packing plants, increasing feed prices, drought in the West, and recently, increased Chinese imports and cyber-attacks. Only one other year in the past 30 has witnessed more volatility in live fed cattle prices than 2020.¹ Consumers likewise experienced significant price shocks. Retail beef prices increased 25% year-over-year price in June 2020 before falling 3% year-over-year in May 2021.²

When trying to understand the current challenges, some historical perspective is warranted. Over the past decade, cattle inventories have followed a V-shaped pattern. Corresponding cattle prices have followed an inverse V-shaped pattern. From 2010 to 2015, total number of commercial cattle slaughtered fell by more than 16%.³ The decline resulted from producers cutting inventory as a result of a dramatic increase in feed prices and a drought in some parts of the Midwest. The change in cattle numbers affected the packing sector. There was, at the time, too much packing capacity relative to the number of cattle, and returns to cattle processing took a hit. Some small and medium packers exited because it was no longer profitable, and some large packers shuttered plants in an attempt to align capacity with inventory.

The high levels of capacity relative to cattle numbers, coupled with strong demand, led to a rise in cattle prices. Following a common cyclical pattern (the “cattle cycle”), producers retained heifers and expanded their herds to capture the benefits of higher prices that were experienced in 2014 and 2015. By 2019, total commercial cattle slaughter had increased 16.7% relative to the 2015 low. The packing sector, having adjusted to a smaller herd size, now found itself in the opposite position: there was a high number of cattle relative to processing capacity, which put downward pressure on cattle prices. It was against this backdrop that we experienced the unexpected fire, pandemic, and cyber-attack that further exacerbated the effects of limited capacity. If these unexpected events had occurred in 2014 or 2015, the impacts on producers would have been much different.

¹ Volatility, in this instance, is defined as the annual average of the week-to-week absolute value of the percent change in 5-market weighted average live steer price as reported by the USDA Agricultural Marketing Service. There was similar but slightly higher volatility in 2016 compared to 2020.

² Figures are my calculations based on data from the Bureau of Labor Statistics.

³ Figures are my calculations based on data from USDA, National Agricultural Statistics Service.

There is a key lesson to take from this recent historical episode. There are long lags and ripple effects in cattle and beef markets. A producer makes a decision today to breed a cow, and it will be roughly three years till the resulting offspring is ready for market. Likewise, investors today decide to build a new packing plant. It will be years before construction is finished and the capacity is brought online. Everyone is betting on the future with information that ultimately be two to three years old by the time outcomes are realized. Cattle inventories have already started to fall, and cattle prices have risen since last summer. My recommendation to you, as policy makers, is the following: do not overly focus on what is happening today. Consider what will be needed 3 to 5 years from now. Market participants adapt to changing circumstances, although sometimes more slowly than we'd like because of biological and construction lags, but policy ideally should focus on longer-run forces that improve the well-being of producers and consumers in an industry.

With that backdrop, I will move on to the first of three current issues facing the industry. There are a number of state and federal initiatives to increase processing capacity. As previously, noted, processing capacity in 2020, even if the pandemic hadn't occurred, was likely to be "tight," which contributed to downward pressure on cattle prices. We appear, however, to be in a different phase of the cattle cycle. Cattle inventory is falling. Feed prices are rising. There is a drought in West. These factors will, over time, likely bring cattle numbers closer in line with current capacity. Moreover, even absent federal investments, there are a number of private initiatives to increase automation and add more packing capacity. More capacity, and fewer cattle, will help support future cattle prices. But, as the experience of the past decade has revealed, that will not be the end of the story. Whether we are setting ourselves up, in five years' time, for another situation in the packing sector like the one experienced in 2014 and 2015 remains to be seen. Additional government investments in capacity, for the purpose of improving cattle prices, may be fixing yesterday's problem.

There is another argument being made for adding capacity: improving resiliency to the sector. Extra capacity could be seen as a form of insurance against unexpected capacity reductions from events like fire, pandemic, or cyber-attack. COVID-19 infections led to and dramatic reduction the nation's beef slaughter capacity. There was little excess capacity in the system and nowhere for market-ready cattle to go.⁴ My research with Purdue colleague Meilin Ma indicates that even if we would have had a more distributed packing sector consisting of more small and medium sized plants instead of a small number of large plants, the price spread dynamics and beef supply disruptions would not have likely have been appreciably different than what we witnessed.⁵ The problem at the time was not the size or localness of the plants but total industry capacity.

However, excess capacity is expensive, and it is in no individual packer's interest to routinely operate at significantly reduced capacity. Imagine approaching an investor asking for tens of millions of dollars with a plan to only operate a facility at only 50% capacity. Few bankers would agree to such a deal. Support for subsidizing additional processing capacity might be

⁴ There is some short-term ability to bring extra capacity online by packers running additional shifts on weekends or moving steer and heifer slaughter to cow-kill plants

⁵ Ma, M. and J.L. Lusk. "Concentration and Resilience in the U.S. Meat Supply Chains." Paper presented at National Bureau of Economic Research (NBER) conference on Risks in Agricultural Supply Chains, May 21, 2021

justified on public insurance grounds, but ultimately, the ebbs and flows of the cattle cycle will determine the long-run size of the packing industry, and newly subsidized plants will be at an advantage over older existing plants when cattle numbers come back in line with capacity and ultimate profitability determines the size of the packing sector. Support for small and local processors might benefit local economic ecosystems and increase custom harvest operations for producers, but these operations, because they lack economies of scale, must focus on quality and service to be competitive, and are such a small part of the national industry that investments at this size are unlikely to significantly alter the aggregate industry capacity. It is also worth noting that costs of adding packing capacity are not limited to concrete and iron. I encourage you to consider other costs and barriers that limit new entrants thus expanded capacity. Availability of labor has been a significant challenge for the industry and labor constraints put a limit on processing capacity. Other factors include the costs of complying with federal, state, and local regulations related to labor, food safety, zoning, transportation, and more.

Second, in light of the relatively low cattle prices experienced in 2020, there have been a number of proposals to affect the marketing of cattle. One set of concerns has focused on the share of cattle sold on a negotiated or cash basis. While the share of cattle sold in this manner, roughly 20%, has not changed much since the high-cattle-price era experienced in 2014 and 2015, it is lower than was the case a decade ago. Cattle sold on a formula basis often utilize the negotiated, cash price as a base. Thus, trades on a relatively small number of cattle influence the price for a much larger number of formula-priced cattle. A concern has emerged as to whether there are enough trades in the cash market to truly reflect market fundamentals. In efforts to improve price discovery, an important distinction needs to be made: price levels and price volatility. Even if all cattle were traded on a negotiated, cash basis, the price level would not necessarily improve; however, we might be more confident that any given transaction would be reflective of the “true” underlying supply and demand conditions at the time and location. Whether, in fact, there are too few cash transactions to reflect market fundamentals is debatable.

Attempting to mandate more cattle be sold in a negotiated, cash basis has potential benefits and certain costs. The fact that most producers and packers choose to sell cattle using alternative marketing arrangements suggests they see benefits in this form of marketing in the form of increased certainty, lower transactions costs, and supply chain coordination. Mandating a certain percent of cattle be sold on a negotiated basis would entail some producers and packers foregoing a marketing method they currently find more desirable. That is a cost. Moreover, strengthening of consumer demand for beef over the past couple decades has occurred over a period in which there was increased use of formula pricing that rewarded quality improvements. Eroding the ability of consumers, retailers, and packers to incentivize quality through formulas and vertical coordination may have detrimental impacts on demand.

The best economic case for mandating more negotiated transactions rests on the argument that price discovery is a public good. Are there less costly ways to improve price discovery than a mandate? Livestock Mandatory Reporting (LMR) is one tool that has improved price transparency and discovery. Continued research into improvements in this legislation might further facilitate price discovery. Taxes to avoid, or subsidies to use, negotiated cash markets are seldom mentioned despite having similar economic intuition as a mandate. Even if a mandate

were pursued, it might be made more efficient if coupled with a “cap and trade” system, where obligations to secure cattle in a cash market might be bought and sold in a secondary “offset” market similar to what currently exists for fuel manufactures mandated to blend a given amount of biofuels. Including negotiated grid or formula transactions in a mandate would also lessen the costs of the policy. It is important to consider solutions that may be less costly and restrictive than a mandate because the cattle industry is constantly evolving and needs to remain cost-competitive with other animal- and plant-proteins to have a place on consumers’ dinner plates.

I will conclude with an encouragement to focus on policies that improve the health of the entire industry. Discussions of cattle prices and packing capacity can give the impression that beef and cattle markets represent a zero-sum game. But, one party’s gain does not have to come at the expense of another. What policies increase the size of the pie available to all participants: cow-calf producers, backgrounders, feedlots, packers, retailers, and ultimately, consumers?

As witnessed in recent months, improved trade relations have the ability improve economic circumstances for multiple segments of the industry. The U.S. exports about 12% of beef production. Trade agreements are important to help open markets for U.S. producers to allow products to flow to consumers who value them most.

Investments in research and innovation that increase demand or improve productivity are likely a net win for consumers, producers, and the environment. Had we not innovated since 1970, about 11 million more feedlot cattle would have been needed to produce the amount of beef U.S. consumers actually enjoyed last year. Innovation and technology saved the extra land, water, and feed that these cattle would have required, as well as the waste and greenhouse gases that they would have emitted. Investments in research to improve the productivity of livestock and poultry can improve producer profitability, consumer affordability, and the sustainability for food supply chain.

Despite the challenges of the past couple years, the beef cattle system responded remarkably well to a series of large, unexpected disruptions. Producer prices have been on the rise. Consumer demand is strong. These core facts should remain front of mind when considering changes that would significantly affect the cattle industry going forward.

**Committee on Agriculture
U.S. House of Representatives
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House rules require nongovernmental witnesses to provide their resume or biographical sketch prior to testifying. If you do not have a resume or biographical sketch available, please complete this form.

- 1. Name:** Jayson Lusk
- 2. Organization you represent:** Purdue University
- 3. Please list any occupational, employment, or work-related experience you have which add to your qualification to provide testimony before the Committee:** see below
- 4. Please list any special training, education, or professional experience you have which add to your qualifications to provide testimony before the Committee:**

Jayson Lusk is Distinguished Professor and Head of the Agricultural Economics Department at Purdue University. He earned a BS in Food Technology from Texas Tech and a PhD in Agricultural Economics from Kansas State. He held previous appointments at Mississippi State and Oklahoma State Universities and the French National Institute for Agricultural Research. He serves on numerous advisory boards including the executive committee of the USDA National Agricultural Research, Extension, Education, and Economics (NAREEE) Advisory Board.

Lusk is a food and agricultural economist who studies what we eat and why we eat it. He has been interviewed and published editorials in outlets such as the New York Times, Wall Street Journal, USA Today, and the Washington Post, and has appeared on numerous network and national cable television shows. Lusk has published more than 250 articles in peer reviewed journals, including several of the most cited papers in the agricultural economics profession, on a wide assortment of topics ranging from the economics of animal welfare to consumer preferences for genetically modified food to the impacts of new technologies and policies on livestock and meat markets to analyzing the merits of new survey and experimental approaches eliciting consumer preferences. He has served on the editorial boards of 8 different academic journals. He has authored five books, the latest being *Unnaturally Delicious*. Lusk has received numerous awards including the Borlaug Communication Award from the Council for Agricultural Science and Technology and the Lou Ann Aday award, Purdue University's most prestigious research award in the humanities and social sciences. He is a fellow and past president of the Agricultural and Applied Economics Association.

- 5. If you are appearing on behalf of an organization, please list the capacity in which you are representing that organization, including any offices or elected positions you hold:**

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In accordance with Rule XI, clause 2(g)(5)* of the *Rules of the House of Representatives*, witnesses are asked to disclose the following information. Please complete this form electronically by filling in the provided blanks.

Committee: Agriculture

Subcommittee: Livestock and Foreign Agriculture

Hearing Date: 07/28/2021

Hearing Title :

State of the Beef Supply Chain: Shocks, Recovery, and Rebuilding

Witness Name: Jayson Lusk

Position/Title: Distinguished Professor and Head, Department of Agricultural Economics, Purdue University

Witness Type: Governmental Non-governmental

Are you representing yourself or an organization? Self Organization

If you are representing an organization, please list what entity or entities you are representing:

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Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.

Are you a fiduciary—including, but not limited to, a director, officer, advisor, or resident agent—of any organization or entity that has an interest in the subject matter of the hearing? If so, please list the name of the organization(s) or entities.

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Please list any federal grants or contracts (including subgrants or subcontracts) related to the hearing's subject matter that you, the organization(s) you represent, or entities for which you serve as a fiduciary have received in the past thirty-six months from the date of the hearing. Include the source and amount of each grant or contract.

USDA-NIFA AFRI grant, "Using Consumer Tracking Survey to Understand and Forecast Changes in Consumer Demand for Disaggregated Meat Products", \$485,000
USDA-NIFA AFRI grant, "Consumer and Societal Impacts of More Efficient Animal Protein Production," \$480,000

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- I have attached a written statement of proposed testimony.
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* Rule XI, clause 2(g)(5), of the U.S. House of Representatives provides:
(5)(A) Each committee shall, to the greatest extent practicable, require witnesses who appear before it to submit in advance written statements of proposed testimony and to limit their initial presentations to the committee to brief summaries thereof.
(B) In the case of a witness appearing in a non-governmental capacity, a written statement of proposed testimony shall include— (i) a curriculum vitae; (ii) a disclosure of any Federal grants or contracts, or contracts, grants, or payments originating with a foreign government, received during the past 36 months by the witness or by an entity represented by the witness and related to the subject matter of the hearing; and (iii) a disclosure of whether the witness is a fiduciary (including, but not limited to, a director, officer, advisor, or resident agent) of any organization or entity that has an interest in the subject matter of the hearing.
(C) The disclosure referred to in subdivision (B)(iii) shall include— (i) the amount and source of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) related to the subject matter of the hearing; and (ii) the amount and country of origin of any payment or contract related to the subject matter of the hearing originating with a foreign government.
(D) Such statements, with appropriate redactions to protect the privacy or security of the witness, shall be made publicly available in electronic form 24 hours before the witness appears to the extent practicable, but not later than one day after the witness appears.