



December 2020

# Surging Feed Prices to Test U.S. Animal Protein's Recovery

**By Will Sawyer**

*Lead Economist*

## Inside...

Introduction .....	1
China's Shift .....	2
Feed Cost Inflation .....	2
Slower U.S. Animal Protein Supply Growth .....	3
Potential for Profitability .....	3
Conclusions and Outlook for 2021 .....	4

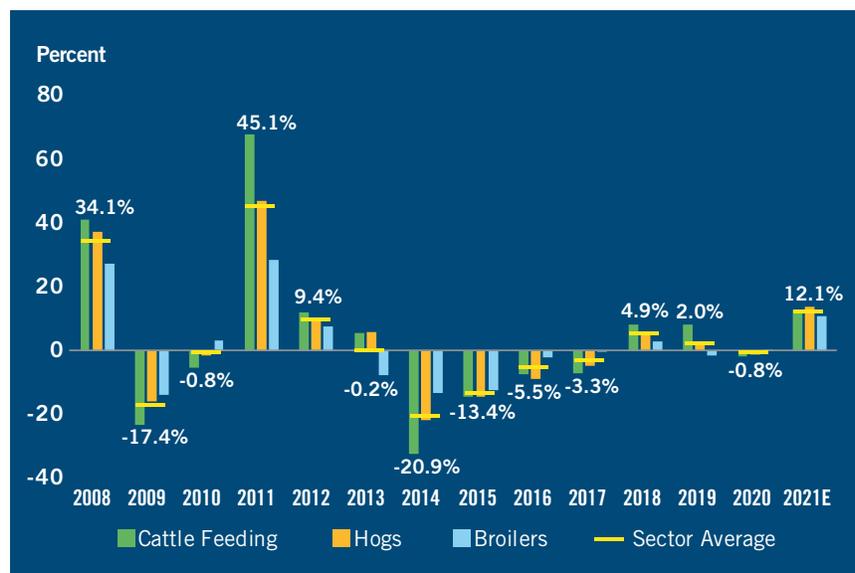
## Key Points:

- Feed costs have been relatively benign since 2012, helping the beef, pork and poultry sectors to expand more from 2014 to 2019 than in any five year period in the industry's history.
- In the coming year, U.S. livestock and poultry producers will face more feed cost inflation than they have in over a decade, challenging their ability to recover after a difficult and volatile 2020.
- China is rebuilding its pork supply after ASF decimated its hog herd, leading to a surge in U.S. grain exports and prices. La Nina also threatens grain and oilseed crop prospects in South America and Eastern Europe.
- Average producer margins for cattle, hogs and broilers fell into negative territory in 2020 after the COVID-19 pandemic disrupted foodservice demand and drove widespread meat plant slowdowns and shutdowns.
- Hopes for a substantial rebound in profitability for meat and poultry producers and processors in 2021 will be difficult to come by with corn and soybean meal prices at multi-year highs.

## Introduction

In 2021, we expect the U.S. animal protein sector to face 12% higher feed costs due to higher corn and soybean meal prices which will be the highest year-over-year inflation since 2011 (*Exhibit 1*). With corn futures above \$4 per bushel and soybean meal futures around \$350 per ton, cattle feeders, hog producers and chicken producers face higher prices for feed than they have in many years. These higher feed costs come at a challenging time, as meat and poultry industry margins have been pressured by weak prices in 2020 due to COVID-19. The pandemic not only impacted demand (primarily in foodservice), but also processing through plant shutdowns, reduced plant efficiency from increased worker absenteeism, and higher costs through pay raises and investments in personal protective equipment (PPE). These higher plant costs have negatively impacted prices and margins for producers up the supply chain.

## EXHIBIT 1: U.S. Animal Protein Feed Cost Inflation by Species, YoY



Source: USDA AMS, CME, CoBank Estimates

Much of the increase in feed prices is being driven by Chinese demand for grain as it rebuilds its hog herd and overall animal protein supply after African Swine Fever (ASF) ravaged its hog herd the last couple of years. As we wrote in our U.S. pork export report published in November, we expect China to shift its imports in the coming years from animal protein to feed as it works to regain its self-sufficiency in animal protein lost due to ASF. The USDA forecasts China's corn imports to more than triple in the 2020-21 crop year, with much of that increase coming from the U.S. Another variable is La Nina's impact in South America over the next few months, as the weather pattern creates drier growing conditions in key regions of Brazil and Argentina – both major exporters of corn and soybeans to China.

### China's Shift

The shortage of animal protein in China the last two years has drawn massive trade flows towards the world's most populous country. Since China lost more than half of its hog herd beginning in late 2018, China has taken the crown as the largest importer globally of beef and pork,

and nearly surpassed Japan to add poultry to the list. The USDA expects China's imports of animal protein to decline in 2021 after more than tripling since 2017. While protein imports are expected to decline a modest 3% in 2021, we expect those imports to fall more sharply in the years to follow.

Conversely, China's imports of animal feed look to surpass all-time highs in the 2020-21 crop year, driven by significant increases of not only soybeans but also corn. China has long held the top importer position for soybeans but China's imports of corn is making waves in global grain and commodity markets. With that, expectations for increased U.S. corn

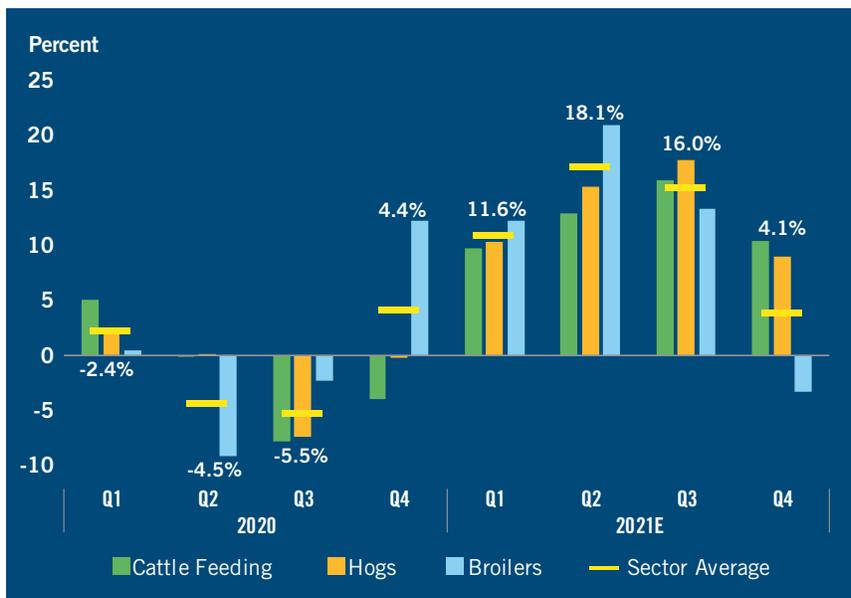
exports have climbed as the USDA now expects U.S. corn exports to account for 24% of the crop versus 15% just one year ago.

This slow but meaningful shift in China's ag imports has massive implications not only for animal protein and grain markets, but for agriculture globally. Prior to the outbreak of ASF, China accounted for nearly 30% of global animal protein consumption and in 2020 will account for a similar level of global animal protein trade. As China's imports of animal protein fall and their imports of feed rise, we see U.S. animal protein sectors facing higher feed costs and lower livestock prices resulting in a more difficult profit margin environment.

### Feed Cost Inflation

For most of the last decade, feed costs have generally been a tailwind for U.S. meat and poultry producers and have been lower than the year before for six of the last eight years. This was quite a reprieve for producers as the eight year period prior had yielded massive financial losses, bankruptcy and consolidation in all three major animal protein species.

## EXHIBIT 2: U.S. Animal Protein Feed Cost Inflation by Species, by Quarter



Source: USDA AMS, CME, CoBank Estimates

The impact of feed costs varies by species for a number of reasons, such as life cycle, feed ration, and components of other feed costs. In 2021, we expect U.S. hog producers to face the highest level of feed cost inflation of 14%, closely followed by cattle feeders at 13%, and chicken producers at 11% (*Exhibit 2*) largely due to the shorter life cycle pulling forward the impact of higher feed costs into 2020. In fact, chicken producers are already experiencing feed cost inflation versus prior year levels which will begin to be felt by the cattle and hog sectors in the first quarter of 2021. Feed cost inflation for the overall sector will be the most significant next summer when feed cost inflation climbs to 18% in the second quarter and 16% in the third, based on the current futures curve for corn and soybean meal prices.

### Slower U.S. Animal Protein Supply Growth

While feed costs will be more of a burden for the animal protein industry than seen in a number of years, meat and poultry supply growth is expected to slow in 2021. USDA forecasts 0.8% overall growth for U.S. beef, pork,

and chicken production in the coming year, with pork leading the way at 1.1% increased production, beef supply growing the slowest at 0.5% and poultry in line with the sector average.

Although protein supplies are expected to continue to climb, 0.8% growth is the slowest rate of supply growth for U.S. animal protein since 2014. In the last six years, the U.S. animal protein industry has grown overall by 2.5% on average each year. The largest driver has been pork's 3.5% annual increase in production, as that industry has added at least three new and large processing plants. Annual average growth of 2.5% in the poultry sector and 2% in beef production also contributed.

As the U.S. consumer emerges in the coming year from the lockdowns and closures of the COVID-19 pandemic, animal protein demand – especially demand from foodservice – will be a boost for meat and poultry prices. COVID-19, the impact of an increase in cases, the timing of recently announced vaccines, and the economic scars of 2020 fill the demand outlook for 2021 with more questions than answers. But, with industry supply growth not looking to be materially higher than population growth, there should be some level of optimism these higher feed costs can be offset by higher prices.

### Potential for Profitability

While animal protein and poultry producers face a higher cost structure in 2021, margin opportunity will increasingly come from revenue rather than cost. Fortunately, there are positive signs that producers and processors may benefit from higher beef, pork, and poultry prices to cushion higher feed costs:

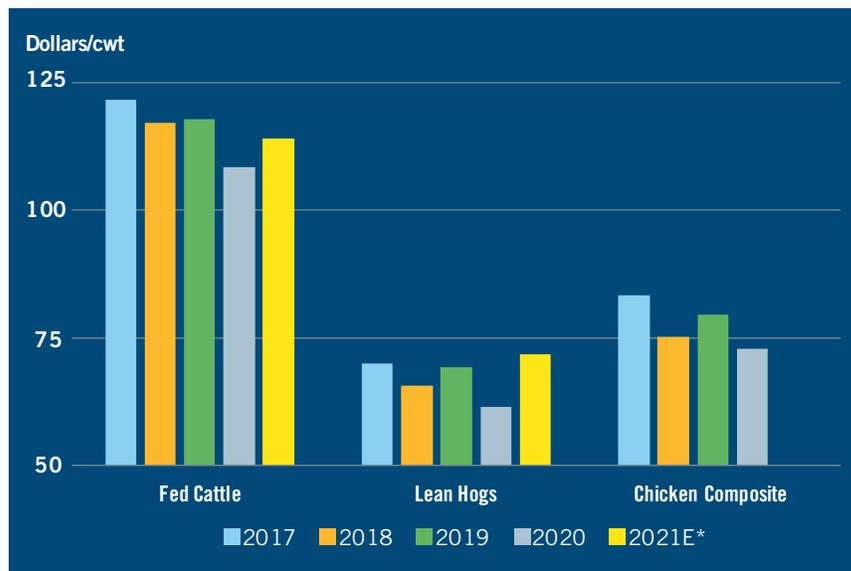
**1. COVID-19 Vaccine:** With multiple COVID-19 vaccines looking to receive FDA approval by early 2021 and distribution ramping up over the course of the year, there seems to be light at the end of the tunnel from the COVID-19 pandemic. The U.S. is still months away from herd immunity, but we expect it to drive a normalization in the food and animal protein consumption patterns. October sales data from the U.S. Bureau of Labor Statistics show foodservice sales were 14% below prior year levels – an improvement from April foodservice sales that were 53% lower YoY.

**2. More Secure U.S. Meat Plant Operations:** We estimate U.S. meat and poultry companies have invested more than \$2.5 billion this year in direct COVID-19 expenses to ensure safe working conditions and reduced risk of plant shutdowns. While the COVID-19 risk within meat plants cannot be eliminated, U.S. meat plants have been able to operate at approximately 95% capacity utilization since mid-year even while COVID-19 cases around the country and in neighboring communities have climbed to all-time highs. Plant capacity disruptions are still a very real possibility given the high number of new COVID-19 cases this fall and winter, but changes by major meat and poultry processors greatly reduce the probability of a repeat experience seen in April and May 2020.

**3. Lower COVID-19 Plant Costs:** Many of the costs the U.S. animal protein companies have incurred due to COVID-19 will continue until a vaccine and herd immunity is in place. But with plants operating at a more normal level, absenteeism levels improving,

and far fewer workers falling ill, the financial impact of COVID-19 looks to be far less in the coming year than what the industry has endured in 2020. We estimate that livestock and poultry processing costs are approximately 10% higher than a year ago at current COVID-19 cost levels, but this is far less than what the industry endured this past spring.

### EXHIBIT 3: Livestock and Poultry Prices



\*Estimated futures prices for cattle and hogs  
Source : USDA AMS, CME

### Conclusions and Outlook for 2021

With the end of 2020 quickly approaching, the U.S. animal protein sector has experienced far more challenges than triumphs. Most producers lost money during the year but that has been in the midst of some of the most extreme volatility in global food demand anyone has ever seen. When the U.S. and most of the world shut down in March and April, U.S. consumers made the largest shift in how and where they purchased their food; grocery retail sales increased by 30% and food service sales fell by more than half, as previously mentioned. Despite this volatility, meat and poultry sectors rapidly shifted their business models to adapt to consumers who were eating at home at level not seen in decades.



That volatility and friction in the market place drove periods of very weak prices for all animal protein species in 2020 (*Exhibit 3*) and with that, periods of very weak profitability. Some producers unfortunately have exited this year, but not at the levels seen during the Great Recession over a decade ago. Meat and poultry producers were far better prepared this time around

with capital markets, the Federal Reserve, the federal government, and lenders all working to ensure liquidity was available to help the industry manage through.

Industry margins are far better today than they were in the spring, but there will be tighter windows of opportunity for the livestock and poultry sectors to profit in 2021. ■

**CoBank's Knowledge Exchange Division welcomes readers' comments and suggestions.  
Please send them to [KEDRESEARCH@cobank.com](mailto:KEDRESEARCH@cobank.com).**

**Disclaimer:** *The information provided in this report is not intended to be investment, tax, or legal advice and should not be relied upon by recipients for such purposes. The information contained in this report has been compiled from what CoBank regards as reliable sources. However, CoBank does not make any representation or warranty regarding the content, and disclaims any responsibility for the information, materials, third-party opinions, and data included in this report. In no event will CoBank be liable for any decision made or actions taken by any person or persons relying on the information contained in this report.*