



Understanding contributing factors in a year of rising feed costs

By Volac Wilmar Feed Ingredients

Call it a perfect storm or a series of unfortunate events, dairy producers around the world have seen an uptick in bought-in feed costs as the global market pulls through a pandemic, extraordinary weather events, logistics disruptions and growing competing markets for raw feed ingredients.

Looking at historic data, this has been a time of uncharted waters for the global feed ingredient market, says Arlan Suderman, agricultural and soft commodities market analyst for StoneX trading group. "The purpose of the market is to bring supply and demand into balance. Low prices discourage production while stimulating demand, and vice versa.

"Global feed demand has been increasing for a number of years, but low

prices discouraged sufficient expansion of production," explains Suderman. "Several factors acted to speed up the draining of supplies while money supplies rose US\$4,6 trillion during the pandemic.

"A portion of that money made its way into the markets, making it easier for buyers to bid up prices in a short market. The role of high prices is to encourage expanded production to bring it back into balance with this expanding demand base."

Weather impacts soya bean supplies

While dairy ration composition will vary in each region based on local crop production, soya beans and their by-products are common denominators in global dairy diets. By-products such as soya hulls are effective at stretching forage and

supporting rumen function as a high-quality source of digestible fibre.

Requiring a combination of heat, sunlight units, humidity and moisture, soya bean production is limited to a handful of countries, with Argentina, Brazil and the United States (US) accounting for more than 80% of the global soya bean crop from 2020 to 2021. Following China, the European Union (EU) is the second highest importer of soya beans.

Historically, the US has been the world leader in soya bean production, producing 120,52 million metric tons from 2018 to 2019. Recently, Brazil has overtaken the US, with forecasts projecting the South American country to have a record 137 million metric tons at the close of this year's harvest.

However, Brazilian producers were challenged by environmental conditions related to La Niña. This comes at a time when soya bean production in the US is still recovering following extreme weather conditions during the 2019 spring planting season. The Midwestern region, where most of the crop is produced, experienced double the season's rainfall through the typical planting window from April to June, delaying planting and reducing yields.

For context, 74% of the soya bean crop was planted by late May 2018, whereas only 29% was planted by late May 2019. These delays also resulted in nearly 31 million hectares of land intended for production to be used for other crops.

With a more favourable 2020 season, US soya bean production was at more typical production levels. Midway through the 2021 growing season, maize production was being challenged by low rainfall totals and extreme heat in the region.

Maize reaches record highs

Due to maize and soya beans doing well in the same climate regions and in feed rations, price movement in one tends to influence the other and adverse weather tends to impact both, says Bill George, senior agricultural economist for the US Department of Agriculture's (USDA) Foreign Agricultural Service.

"Maize requires a lot of nitrogen for top yields while soya beans fix nitrogen in the soil, which enhances a planting schedule that rotates maize and soya beans. Soya beans also work well on the farm as the planting and harvest schedule fits well with maize, and allows for better use of manpower and equipment," explains George.

In 2020, the US produced almost 32% of the global maize crop, followed by China with 23% and Brazil with nearly 10%. Even with its high levels of domestic production, China is the world's largest importer of maize, followed by Mexico and the EU.

Given the synergistic climate relationship between maize and soya beans, delayed soya bean plantings and harvests seen in Brazil this year were also experienced in its maize crop. "In Brazil, the delay pushed planting of the second maize crop, which is the largest share of Brazil's production, beyond the optimum planting window.

"Subsequently, the critical reproductive phases of the maize crop were pushed back beyond the end of the rain season, significantly reducing production prospects for the current year, and further tightening global maize supplies while global demand surges to record high levels," explains Suderman.

Recent reports by the USDA show that Brazil's 2020/21 marketing year maize crop yield is estimated to be down 10% from last year. US maize producers have been challenged with the same environmental challenges during the 2019 season with delayed planting and fewer production hectares, resulting in a 4.8% decrease in production compared to the previous year. Improved growing conditions saw the 2020 harvest revert to typical production levels.

Influence of international markets

With many moving pieces influencing supply and demand for grain and oilseed markets, China is a prime factor impacting prices, says George. "China represents close to 60% of global trade in soya beans and is a major importer of many agricultural products."

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In 2018, China's national swine herd, the world's largest, was cut in half within a year as African swine fever (ASF) ripped through the country and competition for feed commodities decreased. In the four years prior to 2018, average annual growth in China's soya bean imports was just over eight million tons. Annual growth in 2017/18 was only 500 000 tons and in 2018/19, down nearly twelve million tons. Nearly two years on, China is resuming its place of buying competition for feed commodities.

"Any shortfall in China's demand has a positive impact on soya bean and maize prices," explains George. "Currently, the return of China to the feed market has been the primary driver."

For the US, large soya bean stocks that developed during the height of ASF quickly

evaporated with the return of Chinese demand. This strong demand also chewed through supplies in Brazil, exacerbating the issue with this year's delayed harvest.

"With ASF waning, China's demand rose 16 million tons in 2019/20. The 2019 US soya bean harvest was down 24 million tons with the maize harvest similarly impacted. In some ways, this was fortunate as it absorbed all the decline in China's demand plus pulled stocks down ten million tons.

"However, the stock volume was still near record highs, setting up the current situation. The low prices and large stocks kept US plantings in check at 6% below 2017 and 2018. This cut 2020 production by eight million tons from 2018, with similar yields," explains George. "In Brazil, soya bean supplies were already tighter with a short harvest in early 2019. By 2020, with China poised to ramp up purchases, the supplies were not there, running stocks down to the minimum and bolstering prices."

Another factor driving the maize and soya bean market is that both commodities are globally used to produce biofuels, notes Suderman.

"There is a rising new generation of renewable fuels made from edible oils, such as soya, canola and palm. These renewable fuels have high value for uses stretching from truckers to passenger airlines," he says. "They are willing to pay virtually any price for the fuel to meet emerging global green fuel requirements, dramatically increasing demand for soya oil and maize oil."

In early July 2020, US soya bean prices hovered around US\$328.85 per metric ton, reaching US\$610.31 by 12 May 2021. The market quickly dropped by nearly 9.5% by 26 May. Recovering to US\$582.02 by 4 June, the market closed at a low of US\$532.41 on 16 June. This is attributed to weakened global vegetable oil prices and demand uncertainty.

Coming off its record production year, Brazil has also seen high soya bean prices. In June 2020, soya beans were selling for US\$383.57 per metric ton, landing at US\$678.98 by May 2021.

China has also been aggressively increasing maize purchases, with coarse grain imports from the US forecast at

46,3 million metric tons. "Chinese purchases of US maize have added to demand, pulling down domestic supplies and boosting price increases," explains George.

In early July 2020, US maize prices saw a high of US\$137 per metric ton, which quickly increased month-on-month to a peak of US\$304,31 in early May 2021. Prices broke from their month-and-a-half climb of 35% from the start of May to 12 May, dropping to US\$257,07 per metric ton by 17 May, and recovering to US\$275,18 by 10 June.

Global palm market

Rumen-protected fat supplementation is an effective tool to meet the high energy requirements of dairy cows, while also delivering fatty acids to support cow performance. Palmitic acid (C16:0) effectively increases milk fat production, with palm being the only prime source of C16:0. Palm also contains significant levels of oleic acid (C18:1), which improves cow fertility and body condition.

Most of the world's palm production comes from Indonesia and Malaysia, says Alvin Ong, commodity market expert connected to Volac Wilmar Feed Ingredients. According to Ong, the pandemic, government policy and competition all influenced price increases.

"Indonesia is the largest producer of palm, but harvesting volume has been down due to Covid-19 outbreaks among plantation employees. The Indonesian Palm Oil Association has become involved, urging plantations to improve biosecurity protocols," says Ong. Palm oil supplies are already tight in the region, with Indonesia mandating a 30% biodiesel programme in late 2019, which has not only cut into the country's export supply, but contributed to increases in export levies.

According to both Suderman and George, palm oil prices have reflected the overall tightness in the vegetable oilseeds balance sheet. Data from the Malaysian Palm Oil Council shows that palm oil increased by 5% in mid-May to close near a record high on the soya bean rally.

"There is a correlation between soya bean and palm oil prices, so the overall bullish sentiment in soya bean oil has contributed to palm oil's strong

performance. Furthermore, tightness in the canola and sunflower crops in the EU and Black Sea also place greater strain on the vegetable oil global balance sheet," says Suderman.

Challenging logistics

While commodity markets and freight prices regularly influence feed prices, a novel factor has been long-lasting disruptions to the global shipping industry. This was initially triggered by national lockdowns due to Covid-19, says Lionel Margaka, group supply chain manager of Volac Wilmar Feed Ingredients.

Imports and exports of agricultural commodities are directly tied to consumer goods logistics. With most consumer goods being manufactured in Asia, shipping liners will transport these products to Europe or the US where containers will be brought inland to be unloaded. Some of these containers will then be reloaded with export goods to be sent back to Asia for trade, along with empty containers so the cycle can continue.

"In January and February 2020, we saw hold-ups starting in China as liner companies reduced the number of cargo ships being sent out due to lockdowns slowing consumer trade. Strict lockdowns also prevented the return of empty containers, leading to a build-up in certain parts of the world and a severe shortage in others.

"This combined with a shortage of ships led to a huge imbalance, with some ports having no containers and no shipping space, to others having no space and an abundance of containers, or plenty of space and no containers," explains Margaka.

It typically takes around five to ten days for a cargo ship to be docked, containers taken to their destination and then returned to the port. At the height of the national lockdowns, this process could take upwards of five weeks.

In the US, the container shortage has threatened agricultural exports. According to the Agriculture Transport Coalition, carriers are increasingly refusing to release containers once unloaded with consumer goods to be sent inland for less valuable products.

Instead, they are opting to send back greater numbers of empty containers to Asia to capitalise on the booming consumer trade, avoiding time delays associated with getting containers refilled in the US for export. This spurred nearly 300 US agricultural and forest companies and national organisations to urge the US Department of Transportation to intervene in late April 2021.

From a cost perspective, Margaka says they started seeing freight prices increase noticeably from July 2020. "Freight is a direct component to the total cost value of a product, with a company's margins dictating how much of it can be swallowed and how much has to be passed on to the customer."

Reaching an equilibrium

Until global supply and demand come into balance again, the market can expect the current cycle of elevated prices to last, says both George and Suderman.

"When that is going to happen is hard to predict. There are always production issues in play. In this case, we have ASF impacting global markets, sending prices below equilibrium levels, discouraging production growth and raising stocks. Then conditions rebound with equal strength in the other direction, causing tighter supply levels and sending prices higher," notes George.

"Over the long term, prices will track near this equilibrium level when supply and demand are roughly in balance, and stocks are adequate to offset any minor demand or supply changes without impacting the flow of product from producers to end-users.

"Significant events that impact supply or demand always result in higher price volatility and a bumpy ride until equilibrium is restored. That is the situation currently in play as the market adjusts and eventually moves back to equilibrium." 🌱

This article has been shortened for use in *Oilseeds Focus*. For more information, contact Laura Steeden of Volac Wilmar Feed Ingredients at laura.steeden@volac.com.