

Commodity Market Intelligence Update No. 7

COVID-19, Animal Feed, and China's Protein Industry

As the COVID-19 pandemic continues to impact the [global economy](#), demand patterns for forest-risk agricultural commodities like beef, soy, and palm oil are also changing. Exports and consumption of palm oil, primarily produced by Indonesia and Malaysia, will decline this year as falling consumption in the E.U. and India is not completely offset by other large markets (Figures 1 and 2). Meanwhile, Brazil's exports of beef and soy have so far been undeterred by the pandemic, driven by [stockpiling](#) by China and stronger demand from China's animal protein industry (Figures 1 and 3, see Pages 2 and 3 for complete story).

Figure 1: Exports of Key Forest-Risk Commodities, 2019 vs 2020
Million Metric Tonnes

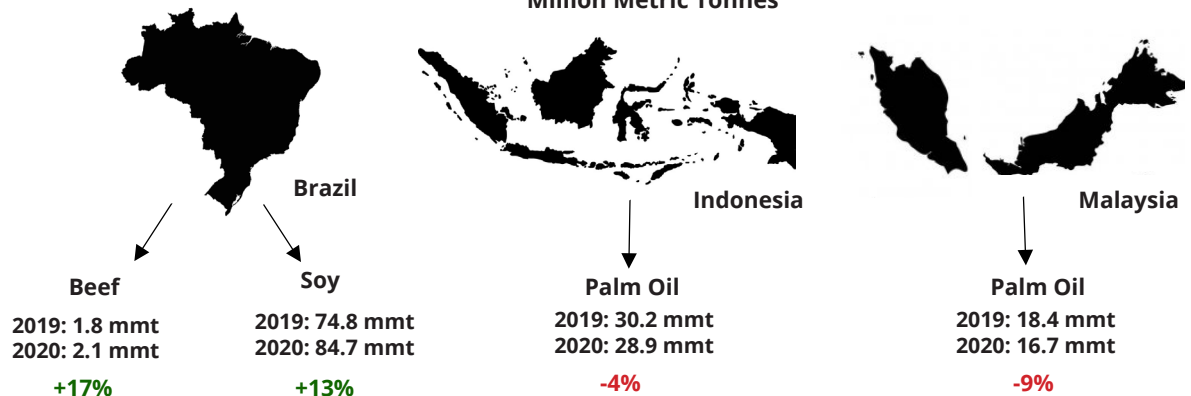


Figure 2: Change in Palm Oil Consumption in Large Demand Countries From 2019 to 2020
Million Metric Tonnes and Percent

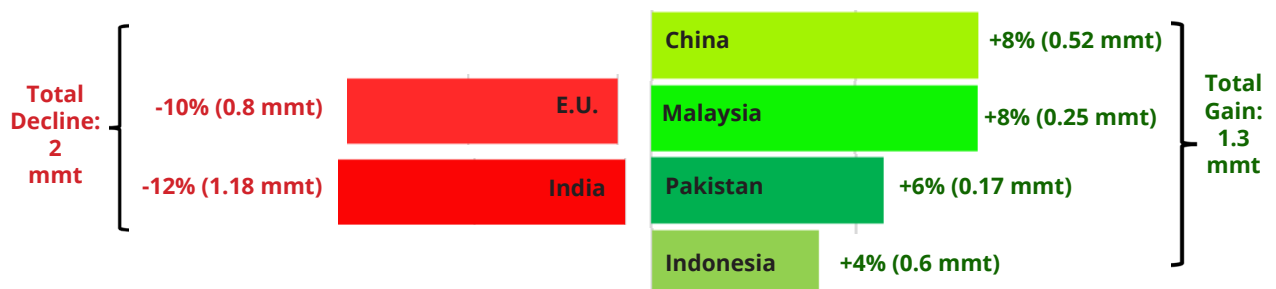
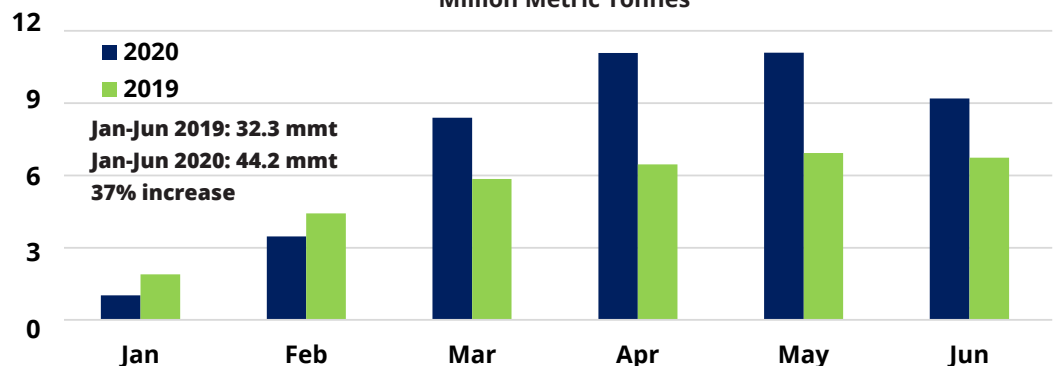


Figure 3: Brazil's Soybean Exports to China
Million Metric Tonnes



Source: OilWorld, ABIEC. Jan-Dec marketing year for beef, Oct-Sept for soybeans and palm oil. 2020 data in Figures 1 and 2 are forecasts based on available export data. June data in Figure 3 is a preliminary estimate. China's imports of Argentine beef, potentially sourced from the Chaco biome, have also increased 75% to 339,000 tonnes from 2019 to 2020.

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Animal Feed and Natural Ecosystems

Currently, 560 million hectares of land, about [40%](#) of the world's arable land area, is used to produce crops for animal feeds. With a global population climbing toward 10 billion by 2050, [rising demand](#) for animal proteins, especially from [developing countries](#), will continue to put pressure on remaining tropical forests, savannahs, and other carbon-rich ecosystems for conversion to agricultural land for feeds. The complex feed value chain (Figure 4) involves agribusiness, feed manufacturers, livestock producers, and retailers, with a lack of product segregation or a chain of custody making it difficult to determine if store shelves contain products produced with feed from recently deforested areas.

Each year, manufacturers globally produce more than one billion tonnes of animal feed, with nearly 70% used for the production of pork and poultry (Figure 5). The nutritional contents of soy and maize make them well suited to be the primary ingredients in most commercial animal feeds. Over 80% of all soy and nearly 60% of maize produced globally is used to make animal feeds, with an area more than three times the size of France (221 million hectares) required to cultivate the two crops explicitly for feeds.

More than 11 million hectares of land will be needed to meet anticipated demand for feed crops by 2028 (Figure 6), risking further habitat loss and carbon emissions from unsustainable expansion. Numerous retailers have made deforestation-free commitments, but their location at the end of feed supply chains puts them at risk; a recent study [found](#) 40% of large retailers' soy footprint couldn't be traced to a single country or region, and only 16% had a credible deforestation-free claim. While some [retailers](#) and [importing countries](#) are taking steps to assess the volume and origin of soy in the animal proteins they sell, engagement with companies operating closest to feed production may be a strategic lever in advancing sustainability.

The U.S., E.U., and China produce close to half the world's feed and are home to 15 of the 20 largest feed companies, who collectively produce 13% of the world's feed (Figure 7). Integrated feed companies, who often directly rear animals, have strong visibility into crop procurement and feed formulation, and may also trade commodities, account for a [majority](#) of soy used in the protein supply chain. Though less engaged in sustainable supply chain efforts to date, sustainable sourcing of feed ingredients by these influential companies, aided by the creation of segregated supply chains by [traders](#), can help remove deforestation and conversion from the production of animal proteins.

Figure 4: Animal Feed Value Chain

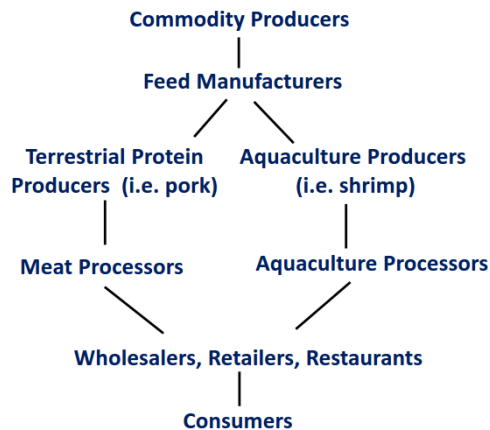
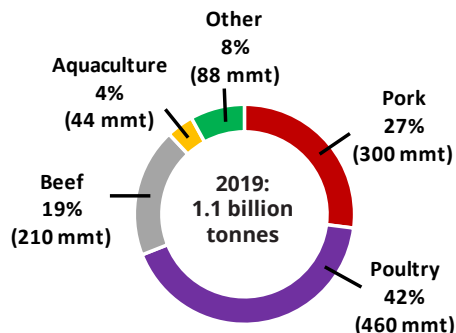
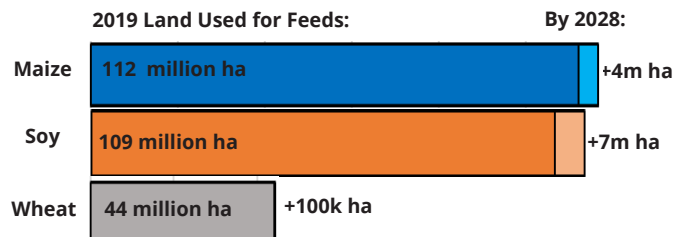


Figure 5: Global Use of Animal Feeds



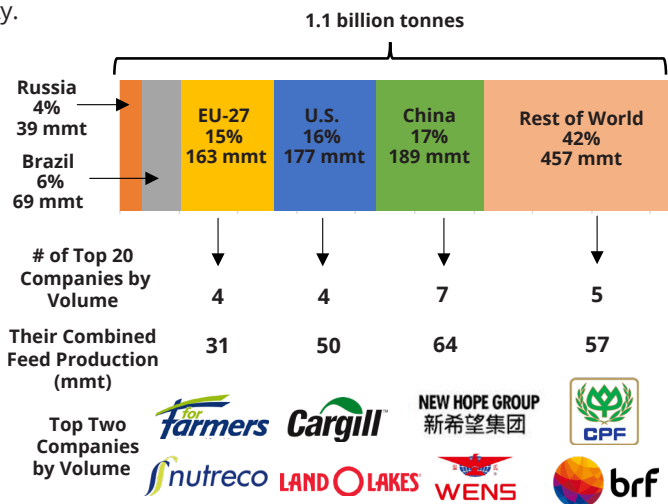
Source: Alltech Global Feed Survey 2020. mmt is million metric tonnes.

Figure 6: Major Feed Crops and Land Use



Source: OECD-FAO Agricultural Outlook and author's calculations.

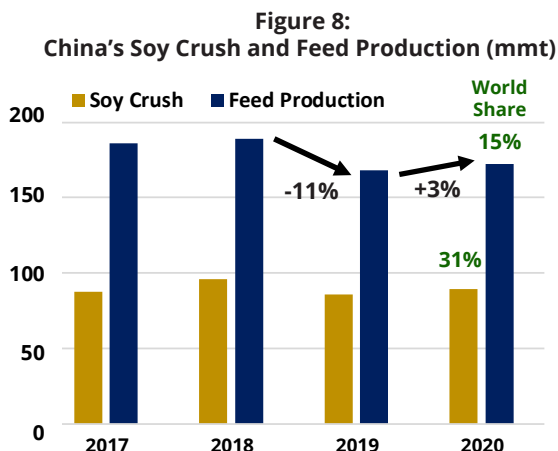
Figure 7: Largest Feed Producing Countries & Companies



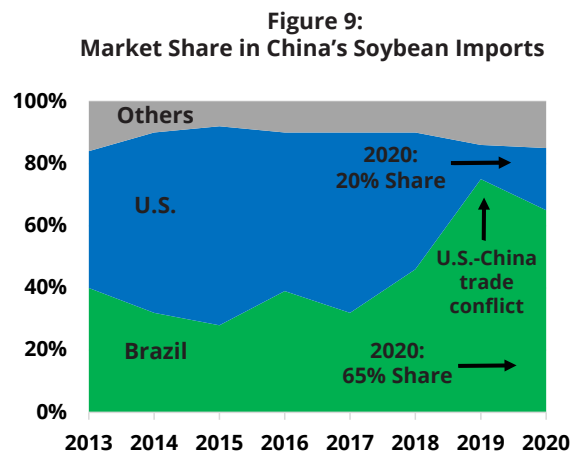
Source: Alltech, WATT Ag Net. mmt is million metric tonnes. Note: "Rest of world" feed production excludes Brazil, but for display purposes top companies include one Brazilian company (BRF) which produces 10 mmt of feed annually.

China's Animal Protein Industry

From the ongoing COVID-19 pandemic to [trade disputes](#), food supply chains are being disrupted by [logistical constraints](#), [closures](#), and [uncertainty](#). Despite these shocks, China remains the world's leading importer of soy, and is projected to import a record 95 million metric tonnes of soybeans this year, 14% more than 2019, as the country begins to recover from African Swine Fever. As the world's [largest](#) consumer of animal proteins, more than 80% of China's soybean imports are crushed to produce pork and poultry feeds. After a turbulent year in which China's pork production declined by [20%](#) and demand for imported soy slowed, feed production in China, the world's largest producer, is resuming growth (Figure 8), with Brazil maintaining its position as China's [primary source](#) of the key feed ingredient (Figure 9).



Source: Oilworld, Alltech. mmt is million metric tonnes. Oct of previous year to Sept. 2020 forecast based on available data.



Source: USDA, Oilworld, author's calculations. Oct of previous year to Sept. 2020 forecast based on available data.

China's protein demand has fostered the growth of vertically-integrated companies operating from the import and processing of soy to the production of feed, raising of livestock, and sale of foods to the country's 1.3 billion consumers (Figure 10). China is home to [half](#) the world's largest integrated feed companies, with a unique mix of public, private, and state-ownership influencing both business and sustainability priorities. With China sourcing 65% of its soybeans and twice the volume of [meat](#) as the previous year from Brazil, where unsustainable production is causing significant [carbon emissions](#) and [habitat loss](#), Chinese companies can demonstrate leadership on green value chains as trade with Latin America continues to grow.

Figure 10: Major Companies in China's Protein Value Chain

| | | | | |
|-------------|------------------------------------|---------------------------|----------------------------|----------------------------------------------------------------|
| Public | Wens Foodstuff | Haid Group | Tongwei Group | Produces feeds & proteins Crushes soy |
| Private | Hopeful Grain & Oil | New Hope Group | East Hope Group | |
| State Owned | Jiusan Group* | COFCO* | Sinograin | |

Source: GreenPoint, Goldman Sachs, Chain Reaction Research, company annual reports. *Jiusan and COFCO crush soy in addition to producing animal feed and proteins. Note: Not exhaustive; China is home to hundreds of companies in the animal protein supply chain.

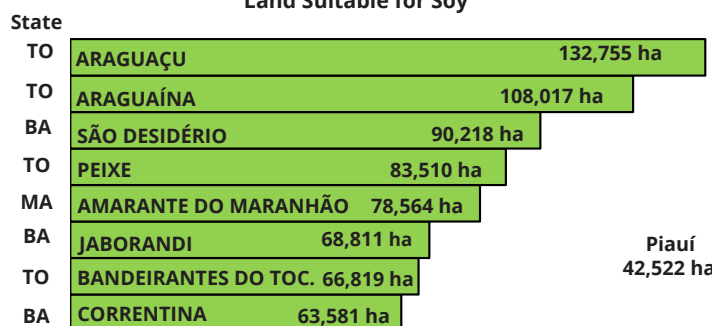
[Recognizing](#) the impact of agricultural commodity-driven deforestation on both [climate change](#) and valuable ecosystems, some companies in China's value chain are signaling an interest to engage. Initiatives like the [China Meat Declaration](#) and [Sustainable Soy Trade Platform](#) aim to drive collective action to remove habitat conversion from protein value chains and develop [guidelines](#) for Chinese companies sourcing soy from Latin America. [Trase's](#) transparency into soy sourcing patterns from Brazil reveal that [80%](#) of China's deforestation risk in the [Cerrado](#) biome is concentrated in just 8% of its soy trade volume, and a further [21%](#) of its soy imports may be linked to illegal deforestation in Mato Grosso, providing strategic opportunities to ensure future food security while [decoupling](#) value chains from habitat conversion.

Sustainable Soy Expansion

Although Brazil lost [1.4 million hectares](#) of native vegetation in 2019, research continues to show ample room for new soy production in the country without the need to clear additional land. A recent [study](#) identified 40 million hectares of previously cleared land suitable for soy in the Cerrado, mostly in the southern part of the biome. With [38 million hectares](#) of land currently planted with soy in all of Brazil, this land alone is more than enough to meet the needs of expanding soy production over the coming decades.

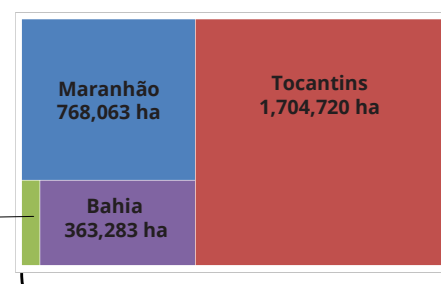
Brazil's "Matopiba" (a region within the states of Maranhão, Tocantins, Piauí, and Bahia), most of which lies in the northern Cerrado, has seen some of Brazil's [fastest](#) agricultural-driven habitat conversion. Even here, there is still room for greater soy production without clearing land; of the 383 municipalities in the four states, 310 have at least some cleared soy-suitable land, the top 8 have 560,000 hectares combined, and overall the four states have a combined 2.9 million hectares of suitable cleared land (Figures 11 and 12). Soy buyers can use [Trase](#) to see which municipalities their suppliers source from and the [Soy Toolkit](#) to begin assessing how to source soy responsibly. Soy producers and financiers can use [Agroideal](#) to screen municipalities for the greatest economic and productive potential with the lowest environmental risk.

Figure 11: Matopiba Municipalities with Most Cleared Land Suitable for Soy



Source: Agroideal. Total cleared area suitable for soy. Excludes areas mapped as grains and Conservancy Units but may include areas managed as pasture. Data not available for all municipalities.

Figure 12: Cleared Land Area Suitable for Soy Production in Matopiba, by State



2.9 million hectares of previously cleared land suitable for soy

Key Companies Update

FGV Despite [weaker](#) demand amidst COVID-19, some companies active in palm oil supply chains are moving ahead with acquisition and joint venture plans. Malaysian palm oil producer FGV will establish a [joint-venture](#) with [Pre-Unique](#), an Indian consultant, to expand from exporting palm oil to India to directly reaching India's consumer market with value-added products. FGV [manages](#) 440,000 hectares of land and 66 mills across Indonesia and Malaysia, 33 of which are [RSPO](#) certified, and has an oleochemical [joint-venture](#) with Procter & Gamble. India, one of the world's largest [markets](#) for unsustainable palm oil, recently [resumed](#) palm oil imports from Malaysia following a diplomatic dispute.

TESCO Thai agri-food conglomerate CP Foods will [acquire](#) U.K.-based retailer Tesco's operations in Malaysia and Thailand for \$10.6 billion, pending regulatory approval. Tesco operates more than [2,000](#) outlets in the two countries (known as Tesco Asia), and [applies](#) its palm oil commitment to all countries in which it operates. Tesco sources nearly [60,000 tonnes](#) of palm oil annually, but its Tesco Asia unit lags behind in sustainable sourcing with [37%](#) of its volume RSPO-certified at last reporting. If approved, it is unclear if CP Foods will integrate Tesco's outlets under its [sustainability policy](#). CP Foods, an RSPO member, initially expected to use 100% RSPO-certified palm oil in its own-brand products by [2015](#), but now expects to meet this goal by [2030](#), suggesting more attention to sustainable sourcing is needed. CP Foods is also the world's [largest producer](#) of animal feeds, likely making the company a large user of soy.

Indofood Indonesian food manufacturer [Indofood](#) will [acquire](#) Pinehill Co, a holding company, for \$3 billion. Pinehill Co. is licensed to sell Indofoods' "[Indomie](#)" brand instant noodles in the Middle East and Africa, and the deal will shift production and distribution of the noodle brand in these markets back to Indofood. Instant noodles can contain 20% palm oil by weight, with the Indomie noodle brand alone estimated to use 850,000 metric tonnes of palm oil per year. With Indofood's withdrawal from the RSPO in January 2019, the company [risks](#) serving the global market for deforestation-linked palm oil.