



South American soy and beef in a world transformed

Photo: Alamy



The peoples of the Xingu say agricultural activity beyond the borders of their territory has impacted fish populations
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Foreword from the editor:

A longtime star crop for South America's export-oriented agricultural economies, soy has enabled countries to weather global shocks better than most other commodities. In the wake of the 2008 financial crisis, as investment in US agriculture dried up and demand from China, the world's top soy buyer, surged, Brazil and Argentina multiplied production and insulated themselves from the storm.

While Covid-19 travel and work restrictions stifled global demand for the commodities upon which many South American economies depend – such as oil, which dipped almost 10% last year compared to 2019 – soy, along with beef, stands to break records yet again. Brazil's total soy production area could cover 39 million hectares in the 2021-22 season, yielding a record 141 million tonnes, according to the National Supply Company (Conab), part of the country's agriculture and livestock ministry. In the first half of this year, Brazil's beef exports to China alone hit almost half a million tonnes in a trade worth US\$2.4 billion, a 13% increase compared to the same period last year, the the Brazilian Beef Exporters Association (ABIEC) reports.

The pandemic, however, may change the way major markets buy and sell food forever. Detections of the virus in beef from Brazil, Argentina, Paraguay and Bolivia brought temporary import bans by Chinese authorities, which have since introduced tougher inspection protocols that are expected to endure. Consumers, too, are even more wary of food safety. A recent survey undertaken in China's northeastern Jilin province found 87% of respondents concerned about beef quality.

Changes in the global political landscape, meanwhile, have had a slower impact. Although the election of Joe Biden to the US presidency in 2020 brought hopes of a return to the international negotiating table on pressing issues such as climate change, his first year has brought few advances on a resolution to Trump-era trade tensions with China. Brazil and Argentina have profited.

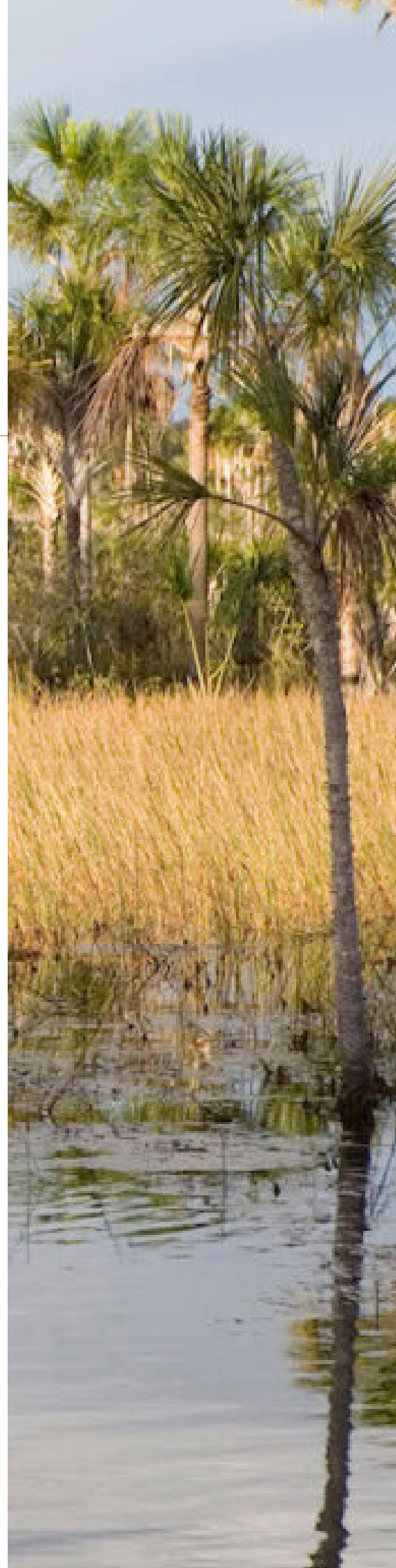
In these countries, however, soy and beef production continue to bring about literal changes to the physical landscape. Owing to high export taxes and years of widespread chemical pesticide overuse that depleted soil quality, Argentina's soy producers are switching back to crops such as maize, planting equal ratios of each crop

last year for the first time in a decade, rolling back the “sea of soy” that swept the Pampas. Conversely, in Brazil, soy’s expanding planted area continues to put pressure on the preservation of vegetation in sensitive biomes, and inches closer to indigenous territories, including the borders of the Xingu indigenous reserve, in the state of Mato Grosso.

The response to the Covid-19 pandemic and the new conditions it has created worldwide will be critical to the future sustainability of these industries. And there are some promising signals: South American producers have begun to develop national and regional strategies for traceable, forest-friendly beef, while policy shifts in China towards greener supply chains and the increased consumption of plant proteins could reshape both diets and markets.

Against this backdrop, we present a special series of articles that examine the China–South America soy and beef trades as the world comes to terms with post-pandemic “new normals”. With rare contributions from senior staff at Brazil’s agriculture ministry and former executives at China’s soybean association, these articles bring unique perspectives to the debate about soy and beef sustainability and help illuminate the paths forward towards a more healthy, safe and nature-friendly trade.

Robert Soutar
managing editor, *Diálogo Chino*





Hereford calves browns in the Liniers Market in Buenos Aires, Argentina
Photo: Alamy

[Lucia He, He Mu](#)

China steps up Covid testing and controls for South American beef

South-American beef producers complained about increased controls by China, which found coronavirus in beef imports

The coronavirus pandemic disrupted beef production across the world, as workers fell ill and plants were temporarily shut. In South America, outbreaks were reported at processing facilities in Brazil and Argentina, while workers in

58%

of the Brazilian beef exports go to China

Uruguay went on strike.

Just as operations began to normalise, producers encountered a new challenge as Chinese authorities detected coronavirus in beef imports. The latest wave of such reports occurred in November, when various Chinese cities said they had found the virus on beef sourced from Brazil, Bolivia and Argentina. A similar series of reports

summer 2020 resulted in the temporary suspension of exports from nine processing plants in Brazil and seven in Argentina.

In addition to the bans, Chinese authorities have also imposed strict testing requirements which have disrupted trade and created uncertainty for both suppliers and importers. The issue is not limited to South America, as China has reportedly found coronavirus in over 40 batches of meat samples from more than a dozen countries. Besides beef, the country also claims to have found the virus on shrimp from Ecuador, white fish from India and Myanmar, salmon from Norway, crab from Chile, and squid from Russia, among others.

However, trade partners have begun to push back, claiming the concerns are unfounded, denouncing the negative impact on trade.

GROWING CONCERN AMONGST SOUTH AMERICAN PRODUCERS

In recent years, China has become South America's largest buyer of beef, accounting for an estimated 75% and 58% of Argentina and Brazil's exports, respectively. Although trade has remained robust during the pandemic, producers are starting to worry about Chinese authorities' increased scrutiny and testing of imported meat.

The measures implemented by China include 'complete elimination' and 'strict

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2020 was practically a lost year for the industry.

refusal of entry' of any products suspected to have had contact with the virus. Exporters whose products test positive face a week-long ban, extended to a month for offenders with three strikes or more. Further to this, in November 2020, China's State Council established a plan requiring comprehensive disinfection measures for imported foods before workers are exposed during handling.

In supermarkets, some imported meat now displays a sticker declaring it to be virus-free, and other products contain a QR code through which consumers can access information such as country of origin and quarantine inspection certificates.

These measures have so far resulted in the suspension of imports from 99 suppliers across 20 countries, including those from Argentina and Brazil.

One such ban involved Gorina, an Argentinian beef processor, whose exports to China were halted for 4 weeks, after authorities in Nanjing detected coronavirus on

the packaging of products. Prior to the ban, Gorina was one of Argentina's largest beef exporters, shipping between 2,500 and 3,000 tons of beef per month to China, which represented between 55% and 60% of its total sales.

“What happened in 2020 was very concerning, it was practically a lost year for the industry,” says Ignacio Harris, Manager and Technical Director at the Argentine Association of Angus.

“The changes in the Chinese market have caused fluctuations in the volumes of meat exported by Argentina, but undoubtedly the main change has been in prices”, says Mario Ravettino, President of the Consortium of Argentine Meat Exporters. “The price of frozen boneless meats exported to China decreased by 34% if we compare the prices of October 2020 to those at the end of the previous year.”

LONG-TERM IMPLICATIONS POST-COVID-19

Inspection requirements led to a noticeable drop in beef availability in China, with supermarkets reporting shortages due to logistical delays caused by testing. Importers are also placing fewer orders due to higher costs to meet customs requirements, and the risk of losing entire shipments in case of a positive test.

As long as the coronavirus is not fully eliminated in producing countries, the Chinese government is likely to maintain heightened



A string of food scandals in recent decades has made Chinese consumers highly sensitive to food safety issues.
Photo: Alamy

testing requirements. Authorities even found traces of the virus from beef imported from New Zealand, which had largely eliminated local transmission.

A “new normal” with protracted restrictions on trade could result in lower volumes and prices for South American suppliers, as purchasers turn to domestic sources of protein, such as pork and poultry, which may be deemed safer. Countries with lower coronavirus transmission such as Australia and New Zealand could also be favoured.

Beyond the immediate effect on trade, producers are also concerned about the long-term reputational impact on South American beef. Chinese consumers have historically been highly sensitive to food safety, following a series of high-profile scandals involving everything from baby formula to cooking oil.

While imported products have traditionally been seen

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It’s incredible to see how the Chinese importer and consumer changed over those six years, realising that there is a true difference in the quality of our meat.”

Ignacio Harris


Manager and Technical Director at the Argentine Association of Angus

as safer, higher-quality alternatives than their domestic counterparts, this perception has shifted in recent months as authorities stepped up their coronavirus testing campaign. Countries such as Brazil, Argentina and Uruguay had painstakingly built the reputation of their beef over many years, positioning it as a safe and premium product.

“Before the pandemic, for six straight years, we went to the yearly international meat exhibition held in Shanghai to promote Argentine Angus beef,”

says Harris. “It’s incredible to see how the Chinese importer and consumer changed over those six years, realising that there is a true difference in the quality of our meat.”

Nonetheless, Harris is hopeful that the new controls and restrictions will only be temporary.

“I don’t think that the Chinese government will keep implementing these controls for much longer, because they aren’t founded on real scientific evidence,” he says. “China needs to eat, it needs protein.” 

Trump's trade war has boosted soybeans in South America. Can Biden change that?

For analysts and representatives of the agricultural sector, the new US president should not significantly change the Latin American soybean market

Climate issues were central to Joe Biden's platform during his presidential campaign. It remains to be seen how this change of priorities in the White House will impact the direction of South American soybean trade.

Photo: Alamy



oe Biden's election created an expectation of a return to normality in the United States' relationship with the rest of the world. The President's campaign and his initial speeches have showed that rhetoric against international bodies, exaggerated nationalism and scientific denialism

must be left behind.

But the friction between relations with China, stoked by the Trump government, and many of its consequences — most visibly, the trade war — will not go away so easily.

Analysts do not expect

the soybean market in South America to shrink in the near future as the United States muscles back in, though many fear this outcome. According to market sources consulted by Dialogo Chino, Biden represents continuity over change in this area.

“In general I see Biden following the same route as Trump. I don’t see a major change happening for this kind of agricultural markets and commodity exports,” says Wilhelm Uffelmann, a partner and global leader of food and agribusiness practice at Roland Berger.

Since 1968, the amount of land dedicated to soy crops has increased faster than seen with any other major crop globally. According to data from the United States Department of Agriculture (USDA), 122 million hectares are destined for cultivation all over the planet. After Brazil, the United States is the second largest producer of soybeans on the planet. The commodity’s main destination is China.

Dialogo Chino talked with market analysts and representatives of the retail sector to understand what we can expect now Joe Biden has been inaugurated as president.

EYES ON SOUTH AMERICAN SOYBEANS

Every year, the number of inhabitants in the world grows by the equivalent of Germany’s population — approximately 81 million

people — and meat consumption by 1.4%. It is this growing demand for protein that puts pressure on the main soybean producing regions.

Soy is the primary source of protein in the world, particularly as it serves as a basis for animal feed — approximately 80% of global grain production goes to this end.

Almost half of the world’s soybeans are harvested from plantations in South America. As the world’s largest producer, Brazil devotes some 38 million hectares to plantations, an area larger than Japan. Argentina and Paraguay are also key producers, with 17.7 and 3.6 million hectares, respectively, planted in the 2019/2020 harvest.

Much of this quota is exported to China, which has been investing in regional infrastructure to protect the supply chain. Despite China’s search for other markets, such as African countries, South American soy producers do not fear a significant impact on their sales.

“I believe that in the next 30 years Africa should show strength, but with lower technology than

Brazil. Local political issues make it very difficult to invest in Africa,” says Bartolomeu Braz Pereira, president of the Brazilian Association of Soy Producers (Aprosoja).

CONTINUITY OF TRADE DISPUTE

It was Donald Trump who instigated the trade war with China, imposing tariff barriers that damaged the export of commodities from local producers. In 2016, the last year of the Barack Obama administration, U.S. soy exports to China reached a record \$14.2 billion. Two years later, at the peak of Trump’s dispute, the negotiated value plummeted to \$3.1 billion.

One consequence of this conflict was the sharp increase in Chinese imports of soy from South America, especially Brazil, who in 2018, increased soy exports by 35% compared to the previous year.

Despite the differences between Biden and Trump, it remains uncertain whether the new president will ease the tariff war between the two countries. In a late 2020 interview with the New York Times, Biden said he would not immediately lift trade tariffs, and since assuming the presidency, he has made no further moves to do so.

The conciliation allowed the Chinese to buy US soybeans at tariffs rates set before the 25% increase imposed in 2018, in response to

38 million

The area of farmland, in hectares, dedicated to growing soy in Brazil



It is not yet known which direction Joe Biden intends to take in the trade war between China and the United States. Analysts say that big change isn't likely. Photo: Alamy

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Brazil has not failed to expand production under Obama's administration, of whom Biden was vice president, and should not fail to do so under Biden

similar tariffs on Chinese products imported into the United States.

For Daniele Siqueira, AgRural's market analyst, the election of Joe Biden should not significantly affect the soybean market in relation to the trade war. "The dispute tends to continue, but without as many bumps as in the Trump government. The [first] phase of the

agreement has already brought a certain normality to the market," he says.

On the Chinese side, even if there is a resumption of the purchase of US soy, the tendency is for China to diversify its suppliers with domestic investments and in African countries. But there are still advantages in the South American market.

"China has been phasing out its North American oilseed suppliers, preferring instead to buy South American soy which has a higher concentration of protein" and makes it more attractive for animal feed, explains João Fernandes Silva, an analyst and price reporter at PRIMA-Markets.

ENVIRONMENTAL ISSUE

Although the achievements of Brazilian agribusiness are solid, the environmental issue may become a thorn in the side of the Biden government. In the September 29 debate, Biden accused Donald Trump of not acting to preserve the Brazilian Amazon, saying that if he were president he would seek resources to protect the Amazon,

and if Brazil did not act against deforestation, it could suffer “significant economic consequences”.

Traditionally, soy is planted in pastures in southern and central-western Brazil, especially in the Cerrado. It is estimated that this biome has already lost 50% of its original coverage. But soybean cultivation is expanding to other biomes, including the Legal Amazon, and

there are already questions about the continuation of the Soy Moratorium, which has blocked the commercialisation of grains produced in areas deforested since 2006.

In Paraguay, soybeans are primarily planted on Atlantic Forest land, but a moratorium has slowed planting in the biome and pushed new areas of soybeans and pastures toward the Gran Chaco,

another endangered biome.

It is not yet clear whether Biden will act to preserve the environment in Latin American countries, action that would be detrimental to the economic interests of the United States. “Brazil has not failed to expand production under Obama’s administration, of whom Biden was vice president, and should not fail to do so under Biden,” points out Siqueira of AgRural. 🇺🇸

[Flávia Milhorance](#)

Agro-industry surrounds Xingu indigenous territory

Impacts of grain crop cultivation spill into Brazil’s oldest indigenous reserve as farmers work with tribes to restore degraded land

atatakalu Yawalapiti is 40 years old. She was born in the Amakapuku village, surrounded by a large preserved forest in the heart of Brazil. She spent part of her childhood on the white sands and clear waters of the Tuatuari river. At other times, she would sit in a circle listening to her great-grandfather telling stories, like the one about how the white man would arrive with a huge blade and cut down the trees as one shaves one’s body hair.

“Everyone laughed because no one thought it was

true,” she said, then immediately remembers a song in the Yawalapiti language that her great-grandfather used to sing to narrate the legend.

Yawalapiti, today a local indigenous leader, grew up protected by the borders of the Xingu indigenous territory (TIX), between the states of Mato Grosso and Pará. The Xingu was the first indigenous reserve created by Brazil’s government, established 60 years ago to preserve the biodiversity and the 16 ethnic groups living there.

Inside an area larger than Israel, Yawalapiti has experienced the calmness of time marked by the rainy and dry seasons. Outside, however, things were moving fast. Every time she crossed the 290 kilometres from the village to Canarana, the nearest town, the forest had decreased. More fields had replaced it. Her great-grandfather’s fable began to take a more realistic quality.

In the last 20 years, the region around the land of Yawalapiti has been transformed into



a production hub for soybeans, corn, cotton and meat, connected by highways and railways. Today, the Xingu area produces 10% of Brazil's soybean exports.

While the agricultural frontier advances through the Xingu basin, exports continue to break records. At the same time, this is where the largest deforestation in the Amazon is happening.

Brazilian president Jair Bolsonaro supports opening up the forest to mining and agriculture, sparking protests from tribes in the Xingu who feel they are under threat.

XINGU'S INDIGENOUS PEOPLE: "WE NO LONGER DRINK THE WATER"

The 13 municipalities around the Xingu, including Canarana, exported 8.7 million tonnes of soy in 2020, more than half to China, according to foreign trade (Comex) data.

The same municipalities also exported 8.5 million tonnes of corn — which is intercropped with soy — which represents a quarter of last year's shipments.

"On the east side, where Querência is, and south, with Canarana, there is an advanced consolidation of agribusiness, with multinational groups and

their huge silos investing heavily," explained Ivã Bocchini, from the Socio-Environmental Institute's Xingu Programme.

Multinational companies such as Bunge and Cargill from the US, the Chinese Cofco and Brazil's Amaggi have major operations in the region, according to data from the Trase platform, which tracks deforestation risk in supply chains.

As there are few unoccupied areas left, farms and reserves are now much closer together. They are like the edges of two worlds. But the consequences of deforestation and monoculture go beyond their borders.

Watatakalu Yawalapiti says that her people, who share the reserve with 15 other ethnic groups, have noticed the climate changing. The sun became hotter, the dry season longer, the river shallower and more turbid. Fish are more scarce. They lived through years of hunger and saw artesian wells appear: "We no longer drink river water, it is no longer clean."

Other disturbances come from the increase in bush pigs, which feed on corn and soy from the plantations and invade the fields of small farmers and indigenous people.

Studies confirm the Yawalapiti experience. Research shows that the rains are decreasing in the



Crop cultivation is growing ever closer to the Xingu reserve

municipalities surrounding the Xingu territory where deforestation is growing. With less rainfall, drought is more intense and bush fires more frequent.

The construction of thousands of dams and reservoirs for livestock, agriculture and electricity generation also alters the flow of the waterways of the Xingu basin. The Belo Monte hydroelectric dam in Altamira threatens the very survival of the Xingu River.

This basin begins in the Cerrado biome, in Mato Grosso state, and extends 531,000 km² before reaching the Amazon, in Pará. More than half of it is sheltered by preservation areas, but the river headwaters are impacted by deforestation and pesticides.

“Pesticides are the worst threat, because they are silent, and the TIX is like a drain into which the rivers flow,” said Bocchini, who advises indigenous organisations in the Xingu region.

In a decade, the area planted with grain crops around the Xingu territory grew 135%, and the use of pesticides, 130%. More recently, cotton, a major consumer of pesticides, began to emerge as a crop. Municipalities of the Xingu more than doubled their cotton exports in the last decade. By the end of 2020, 31,000 tonnes were exported, Comex shows. China is the main importer.

THREE BROTHERS AND THEIR CAMPAIGN TO PROTECT THE XINGU

Landscape in the Xingu basin started to change following the exploration of the interior of Brazil, sponsored by the 1937-1945 Getúlio Vargas government. In 1943, the Roncador-Xingu expedition left Leopoldina, in Minas Gerais, and headed northwest, cutting through central Brazil.

The expedition, made up mostly of “lawless” prospectors, opened up 1,500 kilometres of roads and erected airfields and military bases. Towns sprang up along the way.

But the expedition did not only serve to map Brazil. Due to lack of funding, it stalled in the Upper Xingu, in Mato Grosso, where the leaders, the now celebrated Villas Bôas brothers, established contact with indigenous peoples.

“The purpose of our expedition had nothing to do with Indians, this was an accident,” Orlando, the older brother, said in an interview in 2000.

The risk of the agro-industry threatening the indigenous way of life was already becoming clear. The Villas Bôas brothers allied themselves with local leaders, including Paru Yawalapiti, Watatakalu’s grandfather, in a near decade-long campaign to create the reserve.

“My grandfather was

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The soy industry is moving very fast, and these people, if they can, won't even leave a tree standing

part of the expedition together with the Villas Bôas [brothers], my father learned to read with their sister, Maria de Lourdes,” Watatakalu remembered.

Orlando, Cláudio and Leonardo left their “mediocre bureaucratic lives” in search of adventure after the death of their parents, as described in the book *The March Westwards*.

Their chosen cause, to protect the Xingu, eventually resulted in the establishment of a protected territory in 1961. Two of the brothers earned Nobel peace prize nominations for their efforts. When Orlando died in 2002 he was given a tribal funeral, a mark of respect.

ANOTHER BID TO COLONISE THE FOREST

With a new government push by the military dictators to colonise central Brazil in the 1970s, large-scale deforestation began to skirt the Xingu territories. From the 2000s onwards, the international demand for commodities injected further impetus.

40%

of the beef exported from the Xingu region in 2020 went to China

Following pressure to conserve the Amazon, measures including fines, the suspension of agricultural credit and pacts with companies operating in the agriculture sector have helped curb deforestation over the last decade. But a recent wave of destruction has awakened long-standing fears.

Logging, ranching and soy cultivation influence the expansion of the agricultural frontier in the Amazon. In the Xingu basin, the pattern of each industry's growth is becoming clear. Soy is already consolidated in the south, while timber and cattle ranching are more commonplace from the middle to the north of the basin.

Data from Comex shows that 18 municipalities in the Xingu region exported 18,300 tonnes of wood in 2020, mainly from Pará. Also, 14,800 thousand tonnes of beef were exported, 40% to China.

Infrastructure works to make mass exporting easier are major incentives for the opening of forest areas.

Edeon Vaz was a soy producer in Mato Grosso. But he decided to develop the sector in a different way. He moved to Brasília with the mission of improving infrastructure to reduce the cost of agricultural production.

“We participate in the creation of regulatory frameworks to negotiate parliamentary amendments, and we charge for the progress of the works, all of which takes a lot of time and we have to stay on top of the government,” said Vaz, who is now executive director of the Mato Grosso Pro-Logistics Movement, a lobby group.

The stretch of national highway BR-163 between Cuiabá and Santarém, is on the list of his accomplishments. The Ferrogrão railway and the dozens of industrial ports on the rivers of the Amazon from part of the same corridor.

But people from the indigenous lands of Baú, Menkragnoti and Panará say that paving the highway has created

all sorts of problems, boosting land grabbing, deforestation and forest fires in the northern portion of the Xingu basin.

The highway began to be built by the military government in the 1970s and left its mark on the history of the Panará.

“It was a disaster,” said Paulo Junqueira, who advises the peoples of the region for the Socioambiental Institute. “BR-163 passed over their territory and brought infectious diseases that killed hundreds of people.”

These people were moved to the Xingu and only managed to return to their original territory two decades later, in 1996.

A VILLAGE ON THE MOVE

Winti Khĩsêjtjê, 47, was born and raised in the indigenous land of Wawi, part of the municipality of Querência, in Mato Grosso. Less than five years ago it saw the arrival of agribusiness.

“Soy is already right at our border,” said the indigenous leader. “And the population has already been suffering the deterioration of the water, which created skin problems and diarrhea.”

Concerned about the organic production of honey and pequi, a native fruit, her community this year moved the village 20 kilometres into the forest. “We were afraid that the agrottoxins, which

are sprayed from planes, would hit our production,” he said.

“We dropped everything to make everything again: housing, school, a health centre,” said Khĩsêjtjê. “But we are afraid of how it will be in the future, whether the situation will stabilise or get even worse.”

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The obstacle is not financial, because there are several organisations wanting to support restoration initiatives

RISING LAND PRICES

Farmer Acrísio Luiz dos Reis lives in Canabrava do Norte, a municipality in the south of the Xingu region, which faced a recent wave of deforestation.

“The soy industry is moving very fast, and these people, if they can, won’t even leave a tree standing,” said the farmer. “I think this is too bad, because, with the knowledge that we have, the more we deforest, the worse it gets; less water, more heat.”

He is also concerned about the real estate

speculation that usually accompanies the entry of new neighbours. It is already a reality in Canabrava: “Four years ago, there was land for ten thousand reais US\$1,770], or even less, per bushel; now it’s 150 thousand reais [\$26,560],” he said.

The Minas Gerais native arrived in Canabrava in 1985 and today lives on a 50-hectare plot in the Manah settlement, granted by the agrarian reform programme. “I will only leave here in a wooden box now. I like it here too much, my dream came true,” said the 70-year-old farmer. “I have a small herd, I work with milk, I plant a vegetable garden and some fruit trees.”

GROWING THE SEED NETWORK

In areas of the Xingu basin where deforestation is advancing, local indigenous and environmental groups fight to slow it. But where the damage has already been done years ago, land restoration is underway.

Since 2008, Reis has supplemented his income by collecting native seeds, including angíco, cajazinha, jatobá and guaritá, found in the transition area between the Cerrado and Amazônia. He is one of the pioneers of the Xingu Seed Network, a project that promotes the planting of seedlings to restore areas degraded by agribusiness.

The initiative, which emerged after local groups

noticed deteriorating water quality and scarcity of fish and turtles, ended up promoting an unusual dialogue.

On one side, farmers whose activities incur an impact on the environment promote the network. On the other, small farmers and indigenous people collect seeds. Today, there are 600 collectors from 16 municipalities of the Xingu basin.

“In the planted areas, we notice the fauna returning and the water becoming more abundant,” said Bruna Ferreira, director of the Xingu Seed Network Association.

But the work is tiny in the great scheme of what is happening. In 13 years of the initiative, the network has restored 6,000 of the more than 200,000 hectares degraded in the region. “The obstacle is not

financial, because there are several organisations wanting to support restoration initiatives,” said Ferreira.

Today, the biggest problem is the lack of enforcement and the lack of interest by large deforesters in participating. “We are sought out by farmers who need to restore and want to be partners, but it’s far less than the size of the damage,” he said. 🇧🇷

[Livia Machado Costa](#)

‘China should not impose sustainability clauses that hinder its food security’

Larissa Wachholz, a former advisor to Brazil’s ministry of agriculture, says China’s 14th Five-Year Plan brings opportunities and should not result in restrictions on meat or soy



Larissa Wachholz, former advisor at Brazil’s ministry of agriculture.
Photo: Larissa Wachholz Divulgação-MAPA

China will continue to have a great appetite for Brazilian commodities despite the challenges of guaranteeing sustainability in meat and soybean production chains, according to Larissa Wachholz, a former advisor to Brazil’s ministry of agriculture. The Asian country’s “absolute priority”, she says, is to ensure food security.

In excerpts from an interview with *Diálogo Chino*, Wachholz says that China is becoming more demanding in terms of sanitary requirements, but that it should not impose

sustainability clauses, such as enhanced traceability of meat produced in the Amazon. This, she says, would hinder the country’s access to items “absolutely necessary” for its population.

China drove record exports for Brazilian agribusiness in 2020, and for Wachholz, the launch of China’s 14th Five-Year Plan brings new opportunities.

Diálogo Chino (DC): China’s 14th Five Year Plan (14 FYP) is the first since President Xi Jinping announced the goal of neutralising China’s

carbon emissions by 2060. What conversations has the 14 FYP initiated within the Ministry of Agriculture about the opportunities Brazil can take advantage of?

Larissa Wachholz (LW):

From the document that we saw, there are three points that are very interesting for Brazilian agriculture and cattle ranching. First, it is very interesting to see that, in China's 14th Five-Year Plan, there was a huge emphasis on fighting poverty and rural revitalisation. We are faced with this same issue and we are working to advance in this area as well. In Brazil, the capacity to generate employment and increase income in cities that have developed from the economic growth of agribusiness is well known. We even see the improvement of the human development indexes (HDI) from agribusiness in certain regions of the country.

Second, it is worth thinking about one of the premises of our low carbon agriculture plan, the ABC Plan. Brazil has the opportunity to show the sustainability of its agriculture. We have the capacity to produce and increase the production of carbon neutral products. Embrapa [Brazil's agribusiness research institute] has already delivered a meat and carbon neutral protocol, which is already in use by the private sector. Today, consumers in some Brazilian cities already



Despite the pandemic, 2020 was the second best year for Brazilian agribusiness in terms of sales.
Photo: Alamy

have the opportunity to go to the supermarket and buy carbon neutral meat. The big challenge of carbon neutral production is to achieve scale. And maybe we have an opportunity for collaboration between China and Brazil in the expansion of programmes that allow us to increase production.

We are leaders in the use of biofuels and in the production of biodiesel. That is, we have agriculture contributing to the reduction of emissions even in other sectors. With this, I am not saying that we don't have great challenges ahead. We do. Especially the fight against illegal deforestation. And we have a great work to fully implement the Forest Code.

Finally, food security and stimulating China's internal consumption are two aspects that have already been present in other plans and that also help tell the story of the relationship between Brazil and China in agribusiness. Our agricultural exports are fundamental for guaranteeing China's food security, which is an absolutely strategic objective for Chinese society. And even during this most recent pandemic period, Brazil's exports, not only to China, but to the world, were maintained. Our contracts were all fulfilled.

DC: How are Brazilian soybean and cattle producers and suppliers prepared in technological and financial terms to adapt their production

systems if China implements tougher sustainability clauses?

LW: We have already seen this reflected here in Brazil, in the case of Cofco International's soybean purchases. From my point of view, this movement does tend to strengthen, but I would be very careful about the timing.

The absolute priority for China remains food security. I don't see China imposing clauses that would make it difficult for its own access to items that are absolutely necessary to ensure its food security. What I think can happen, and I think it is a great opportunity for Brazil, is, based on this greater discussion about environmental issues in China, to show the Chinese our capacity to also deliver products that are carbon neutral.

We have techniques, we have technology, we know how to do it, but, in order to have scale, it will need more resources. So, I think that there is a possible area of collaboration between Brazil and China, which is to give scale to the initiatives that we already have here in Brazil.

I don't see China imposing clauses that cannot be fulfilled, I don't see China creating difficulties for itself to have access to products that are essential to its food security. What I do think is possible is that China will look for incentive mechanisms to increase the eventual

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The Chinese consumer is one of the most concerned in the world about the safety of food

criteria for products that it buys.

DC: What is missing for Brazil to attract more green investments in the agriculture and livestock sector?

LW: I don't think Brazil lacks this possibility [of attracting green investments]. In the case of the ABC Plan, for example, we already work with other countries that help us to get these plans up and running. So, I don't think there is a lack, that we have difficulties in receiving this capital. We are structuring ourselves, but one of the guidelines that the minister [of Agriculture, Tereza Cristina] has leveraged within the ministry are the private sector financing options.

DC: What kinds of changes does the ministry foresee in Chinese demand in the coming decades in a post-pandemic scenario?

LW: The main trends of change are twofold: one

in terms of product and one in terms of access to these products. The first is related to higher value-added agricultural products, such as meat, dairy products, nuts, and fruits. This segment of agricultural products have higher added value compared to traditional commodities, such as soy, for example. Our meats are in great demand in China, beef as well as chicken and pork. Of course, this occurred within a very peculiar context in China, which was the African swine fever and the trade issues between the US and China.

In this post-pandemic moment, we have to increase our physical presence in China, but this depends much more on the productive sector than on the ministry. Our role is to open markets, but the productive sector has to be there. I would like to emphasise the way in which these foods are consumed or bought by the consumer, which was already a pre-pandemic trend, but it has grown enormously stronger: the electronic market. There are estimates that in ten years, about 30% to 35% of China's international trade will come from e-commerce, which is a radical change.

The ministry has been following these trends, we have been discussing this internally, Apex-Brasil [Brazilian Trade and Investment Promotion Agency] has very interesting initiatives to train Brazilian

companies to export their products through e-commerce, with products such as Brazilian fruits, honey, and propolis [a resin made by bees that is used to treat a variety of infections and other conditions], which ends up opening a window of opportunity for small and medium-sized agribusiness companies, and this is very interesting.

DC: Regarding the traceability of meat, we see that the Chinese market is less demanding than the European market. Do you see any change in this trend?

LW: I think that this phase of the pandemic highlighted an aspect that is already very important for the Chinese consumer in general, which is the issue of food quality,

sanitary quality. The Chinese consumer is one of the most concerned in the world about the safety of food. And on this point, Brazil has more than proven its capabilities to deliver a very high quality of food, food that is adequate from the sanitary point of view, and the Chinese know it.

We don't see today the Chinese consumer ready to make the same level of demands for traceability of meat that European consumers do, for example. We see Chinese consumers as much more concerned with the issue of health. When they have an environmental concern with the product that they are consuming, it has more to do with a personal experience in China of intense pollution in certain

regions that leads the Chinese consumer to associate the absence of pollution with a product that is adequate from a sanitary point of view. This is very important for Chinese consumers, and this is the image that they have of Brazil.

We don't yet see that the Chinese consumer is ready to make these traceability demands in the short term, maybe not even in the medium term. We need to think about whether they are going to be ready to pay for a product that gives these guarantees, because it is a more expensive product. China is a developing country that has an emerging middle class that wants to consume more meat, but needs this meat to be at a reasonable price. 📍



Chinese consumers are concerned about the safety of food but stricter traceability should not lead to increased prices, according to Wachholz. Photo: Alamy

Is Argentina's soy boom over?

Driven by incentives and environmental concerns, farmers are choosing maize and wheat over what used to be the star grain crop



A maize field plantation in Buenos Aires, Argentina.
Photo: Alamy

This year, Argentina will plant the least amount of soy for a decade. Maize and wheat have begun to overshadow the oilseed, which has been grown less and less each year.

While in 2014, the ratio of hectares of soy sown compared to maize or wheat was 1:1, this year it fell to 1:4. Far from being the “sea of soy”, as the Pampean plains have been in recent years, record maize production is expected instead this agricultural cycle, adding up to 5% more cultivated area.

A combination of factors, including trade incentives and environmental damage, has led producers to move away from the star crop of the early

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Soybean country is over, only the myth remains

2000s’ commodity boom. Greater crop diversity could also bring environmental benefits such as protection against increasingly extreme weather events, and healthier soils.

“This is a drastic change from seven or eight years ago. Today we are facing the most varied and sustainable season of the last decade,” said

agronomist Cristian Russo of the Rosario Stock Exchange, the commercial heart of Argentina’s agricultural complex.

“Seven years ago the field was all soybeans, and for every wheat or maize plot there were five of beans. Today we are almost one for one, the change is impressive. Crop rotation is a more efficient, cheaper and more sustainable practice,” he added.

ARGENTINA’S NEW AGRICULTURAL LANDSCAPE

The data in a new report authored by Russo is clear. This year will see an expected increase of 7.73 million hectares of maize’s planted area, with record production of 54

million tonnes. Wheat's footprint will also grow, with 3% more than last year, a total of 6.7 million hectares. Russo foresees a record wheat harvest of 20 million tonnes.

Last year, Argentina planted 16.9 million hectares of soy, yielding 45 million tonnes. While it is still too early to estimate this year's planted area, Russo said the area to be cultivated "will fall by at least 100,000 hectares more".

According to a report by the consultancy Agrobrowsers, Argentina will produce 51 million tonnes of maize this year, of which 36 million tonnes will be exported. This is more than double the amount produced in 2010 – some 22.5 million tonnes, 13 million of which were exported. The same process is taking place with wheat.

Soy is moving the other way. While in 2010, Argentina harvested 54.4 million tonnes of the grain crop and exported 9.5 million tonnes, in 2021 it harvested 52 million tonnes and exported 6.3 million tonnes. The peak came in the 2015/2016 season, when production hit 58.5 million tonnes.

"It is a sustained decline, while the increase in grass crops has been phenomenal. Soybean country is over, only the myth remains," insisted Russo.

Producers attest to the change. Mauricio Kunicic is

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The cost of planting maize is still a short-term constraint for sustainable agriculture, but we have all learned that the cost of unsustainable agriculture is much higher

30%

The rate of tax levied on Argentine soy exports

a farmer and agricultural advisor working on a total area of around 7,000 hectares between the provinces of Santa Fe, Córdoba and Santiago del Estero. Like almost all his colleagues, at the beginning of the 2010s he turned almost exclusively to soy. "We only had 50 hectares of maize and 50 hectares of wheat, that's how extreme it was," he says.

Today, he grows almost equal shares of each crop and plans to move to 40% maize and 40% wheat in the near future. "Today it is more profitable to grow maize and wheat than soybeans because the farmer prefers a system that takes care of the soil," he said.

ARGENTINA'S SOY: THE ECONOMIC EQUATION

For Argentina, export taxes are a key factor for

farmers when deciding which crop to grow. Changes introduced by the government of Mauricio Macri (2015-2019), which saw the elimination of taxes on corn and wheat but left a 30% levy on soybeans in place, explain the changes.

"When Macri lowered the taxes on corn and wheat, everything started to change. In reality, we went back to the traditional rotation, because the years of soybean monoculture were exceptional," said Kunicic.

Fernando Botta, head of the Agrobrowsers consultancy firm, reports that most producers have now abandoned soy monoculture, even if maize is a grain that requires a higher initial investment.

"The cost of planting maize is still a short-term constraint for sustainable

agriculture, but we have all learned that the cost of unsustainable agriculture is much higher and we are willing to make an effort,” he said.

Alejandro Ricordi, who farms some 800 hectares in the province of Córdoba, summarised his reason for switching: “Before we only did soy, but now we do maize and wheat as well. Maize is expensive, you have to fertilise more and the seed is more expensive, but it yields a lot and takes better care of the soil.”

With higher profit margins than soy, maize could be Argentina’s new star crop.

TAKING CARE OF THE SOIL IS TAKING CARE OF CAPITAL

Soy monoculture has accelerated soil erosion, a problem that affects 36% of Argentina’s land area. Producers observe this process in their fields, which sometimes comes with financial costs.

“When you don’t stop growing soybeans, the same nutrients always leave the soil, it’s as if the soil were weakening. With many crops, everything is better tended,” Ricordi said.

Rotation improves the soil and allows better yields for all crops, he added.

Kunicic argues that “it was impossible” to sustain a model based on monoculture. “It brings too many diseases and weeds, something that is

also improved by rotating crops because you rotate herbicides, incorporate stubble and fertilisers, and all of that adds more carbon to the system,” he said.

According to Botta, the new generation of producers understand that harming the soil for short-term gain undermines their future wellbeing.

“The Pampean plains used to be a winter grassland, which was replaced by a summer crop: soy. This had consequences,” he said, adding: “producers learned the hard way that, even if trade policies forced them into the short term, soil destruction is much more expensive in the medium and long term.”

WEEDS: A POWERFUL AND EXPENSIVE ENEMY

The emergence of weeds resistant to herbicides most commonly used to treat soy - infamously, glyphosate - has changed the economic equation for producers and complicated grain crop wellbeing.

“A lot of weed and pest problems were appearing due to non-rotation, which increased the pressure on the system. Resistant weeds are a total headache for farmers and require a lot of money to control,” Russo argued.

By contrast, maize management is simpler: “It is a very expensive crop to start, but once planted, it establishes very quickly and is a very efficient plant,” the agronomist stressed.

Kunicic said: “Today we are looking to attack weeds with tools that are not only herbicides, as with crop rotation. Rotation helps because it generates more biodiversity.”

CLIMATE RISKS

In a country like Argentina, where the agro-industrial sector accounts for 24% of total economic activity, according to the Agribusiness for Argentina’s Development Foundation, maximum attention must be paid to the effects of climate change.

According to the World Bank, Argentina loses an average of US\$1 billion in assets per year due to flooding. “Extreme events (floods and droughts) are the country’s main climate risks. Since 1980, the number of extreme rainfall events has tripled,” a recent World Bank report noted.

In a scenario of strong climatic variability, crop rotation lowers risks.

“This year started with a huge lack of water and yet maize production surprised us because it resisted much better than soybeans, it is a crop that withstands the lack of water better,” argued Russo.

Botta agrees and says good field management limited the impact of last season’s drought: “Without rotation, it would have been much worse. Varying crops undoubtedly provides much more protection against climatic events.” 



Cattle ranchers in Argentina, Paraguay and Brazil are working to make their beef production more sustainable.
Photo: GRSB Argentina

[Fermín Koop, Manuela Andreoni](#)

Latin America takes first steps towards sustainable beef

Meatpackers are boosting economies across the region and, aware of the industry's environmental footprint, are working on sustainable solutions

Beef is a top export for many Latin American countries. It has also become a major headache for policymakers, who are increasingly under pressure from consumers and investors worried about the environmental and social impacts of cattle farms.

A solution, however, might be on the way.

Over the past decade, cattle ranchers, environmental



organisations and governments have

developed a set of initiatives designed to make beef production more sustainable. Their work offers a path forward to a growing number of producers looking to tap the demand for more climate-friendly products.

Livestock accounts for 46% of Latin America's agricultural GDP and is largely concentrated in five countries that account for 75% of production. They are Brazil, Uruguay, Paraguay, Mexico and Argentina. The sector has boomed in recent decades thanks to rising demand from the world's growing middle classes,

whose hunger for beef is expected to endure.

Expansion, however, has come at the cost of illegal deforestation, growing greenhouse gas emissions and water pollution, on top of many farms' appalling records on workers' rights. Brazil's Amazon rainforest and the arid, subtropical Chaco biome, which straddles Argentina, Paraguay and Bolivia, are the worst affected.

LATIN AMERICA AND THE SUSTAINABLE BEEF ROUNDTABLE

Latin America is part of the Global Roundtable for Sustainable Beef (GRSB), a multi-stakeholder initiative created to improve the global beef value chain. The organisation, which has a presence in Argentina, Brazil, Paraguay, Colombia and Mexico, works with cattle ranchers, supermarkets, meatpacking plants and others.

They define sustainable beef as a socially responsible, environmentally sound and economically viable product that prioritises the planet, people, animals and progress. The value chain must manage natural resources responsibly, respect animals and ensure the safety and quality of beef products.

Brazil was one of the first countries to embark on a path towards sustainable beef, having created a local roundtable in 2009. Industry specialists often point to Greenpeace's

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Industry specialists often point to Greenpeace's "Slaughtering the Amazon" report of that year as a watershed moment in demonstrating the connection between beef supply chains and deforestation

"Slaughtering the Amazon" report of that year as a watershed moment in demonstrating the connection between beef supply chains and deforestation.

The report prompted some meat packing companies to promise full traceability. However, the journey since has been one of many promises and few deliveries.

Today, only the biggest companies track direct suppliers, while the rest of the supply chain is often obscure. A few companies repeated the 2009 pledges just last year, claiming they now had the technology to trace their entire supply chains. Certification

initiatives, meanwhile, stalled.

"It's a system that never gained traction," explained Lisandro Inakake de Souza, who coordinates the climate and agriculture program at Imaflora, a leading environmental NGO in Brazil. "We couldn't bring farms into the certification standards... because the market is not asking for it."

Yet, years of work have helped Brazilian producers to demystify what sustainable beef actually means. In 2016, the local roundtable launched a digital platform of sustainable beef indicators for farmers. Standards relate to efficiency, trackers for carbon emissions, respect for workers' rights and maintaining legal reserves.

Despite this, many beef and cattle suppliers stumble on the most fundamental criterion: following the law. Illegal deforestation and land tenure issues are still obstacles for a great number of Brazilian farmers. Brazilian law requires producers to preserve between 20% and 80% of their farms, depending on the region and biome.

Still, environmental crimes and land-grabbing are common and there is also confusion about the paths towards legalising a business and getting access to land titles - even when claims are legitimate.

"In the Brazilian reality, we know how difficult it may be, and how sometimes

there is foul play, when people occupy public lands,” Souza said.

However, companies aren’t standing still, as investors push for more sustainable practices. Jordan Timo, who founded Niceplanet Geotecnologia, a traceability company, helps meat giants Minerva and Frigol to track their supply chains and publish information about direct suppliers online, which consumers can access by typing in a code imprinted on their beef packaging.

“We have the technology to expand,” he says. “The important thing is that the lack of knowledge about what can be done is a tool for those who don’t want to act.”

There is a growing number of producers and industry leaders pushing for a sustainable beef industry too. Mauro Lúcio Costa, a cattle farmer in the Amazon state of Pará, might be one of the most eloquent.

For the last three years, Costa has been part of a Niceplanet pilot project to help him track his entire supply chain through his phone. The system allows him to mostly guarantee fully traceable beef—he admits that sometimes even he couldn’t find calves from sustainable farms because demand was so high.

Costa can check his phone to see if a supplier has a legal reserve of forest in the property, and whether

it has been accused of enslaving workers. He has a dream of selling beef with a biodiversity seal, that shows consumers that by buying his meat they are actually helping protect a share of the Amazon forest that falls within his farm. His biggest obstacle is persuading other farmers to join him, so together they can guarantee steady supplies.

“If I could do it alone, you’d be looking at a rich man, because I would have a product no one else has,” he said.

Right now, however, consumers are not demanding this type of product. According to Souza, from Imaflora, most are more worried about animal welfare and whether packaging is biodegradable. Still, Costa believes if enough farmers come together, they would be able to cultivate a market demand.

“Steve Jobs didn’t wait for anyone to want an iPhone, he invented it and then sold it,” he said.

CATCHING UP

In Paraguay, GRBSB also created a set of indicators to measure whether the beef value

chain can be sustainable. Preliminary results show that this is actually the case, according to Hugo Sánchez, the head of GRBSB’s local branch. This is because Paraguay’s cows are mainly grass-fed and hormone-free.

“Most of our production is sustainable but we still have to prove that with proper certification. Paraguay lacks information about its beef sector and we want to change that,” Sánchez said. “Doing so would enable us to sell our beef to premium markets and at a higher price. But it’s a long road ahead, we aren’t identified now as a beef-producing country.”

Sánchez acknowledges the negative image of producers, because of deforestation in the Chaco region. Deforestation in the area is legal, but producers have to keep 45% of trees on their land untouched. More than 2.9 million hectares of Chaco forest were cleared between 2010 and 2018, according to the NGO Guyra Paraguay.

In Argentina, the local branch of GRBSB is now building a similar set of indicators to those used in Paraguay. They

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The world is changing. Either we catch up or we will be left behind.

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Consumers are pressuring the beef sector to be more sustainable. And there's a long list of areas in which we could improve, from traceability to greenhouse gas emissions.”

Federico Baiocchi

Head of Argentina's GRSB branch

acknowledge that not all beef produced in the country is sustainable but hope the indicators will help give a clearer picture. Sustainability means fulfilling all national laws while seeking further improvement, they argue.

“The world is changing. Either we catch up or we will be left behind,” said Federico Baiocchi, head of Argentina's GRSB branch. “Consumers are pressuring the beef sector to be more sustainable. And there's a long list of areas in which we could improve, from traceability to greenhouse gas emissions. We are at the very bottom, so we can only improve.”

Cows no longer graze freely in the vast Pampas of Argentina and are instead driven into feedlots to be fattened. Hormones are also authorised and there's no electronic traceability. Deforestation remains a big problem. Last year, 114,716 hectares of Argentina's forests were cleared, according to Greenpeace.

Across the continent, most producers look to Uruguay as an example. The country's high standards have enabled it to sell beef at a higher price. Most cows roam in the open, feed on grass and are electronically traced.

Timo, of Niceplanet Geotecnologia, says he is confident that Uruguay's model of tracing every single cow is the path forward for Brazil too – and that it could also sharply increase farmers' profits. “We always thought Uruguayan producers could charge more because they had higher quality in their product,” he said. “But it's not that. It's traceability.”

CROSS-REGIONAL INITIATIVES

The beef roundtable is not the region's only initiative. Some farms already produce beef with a sustainable certification, such as those belonging to the Grasslands Alliance, an initiative led by the NGO BirdLife International that operates in Argentina,

Brazil, Paraguay and Uruguay.

Producers are asked to keep at least 50% of their grassland untouched, account for the well-being of the animals during their lifespan and guarantee health and safety conditions for the consumer. In return, they sell their beef with the Alliance's seal.

As of 2020, the initiative covers 621,000 hectares and 444 rural establishments across its four countries.

“We have all sorts of producers as part of the alliance. Some join because of the possibility of adding value to their production and increasing their profits. But others feel proud to have a different product from the rest,” Gabriela Gabarain, coordinator of the Grasslands Alliance in Argentina, said.

The United Nations Development Program (UNDP) has worked with Paraguay's national government on the Green Chaco initiative for five years. They train over 3,500 small and large producers to improve their practices.

“We are trying to find the way for producers to be more efficient and sustainable so their beef can access premium markets,” Rafael Gadea, the project's coordinator, said. “Production is mostly sustainable, but it has yet to prove that though an actual certification.” 

China should play its part in curbing soy-driven ecosystem loss

As the world's top soy importer, China can help by changing domestic patterns of production and consumption, and its global supply chains

Over the last 25 years, China's soy imports have grown 25% a year on average, to reach almost 100 million tonnes in 2020. Globally, 362 million tonnes of soy were grown last year, up 46% on 1994. Top producer Brazil now grows soy on 38.3 million hectares of land – up by an annual average of 13% since 2000.

While this was happening, and in large part because of it, areas of tropical vegetation in South America shrunk rapidly.

These facts lead one to ask: is the global soy industry sustainable? Or will it destroy all tropical ecosystems? How can we ensure its production and trade is sustainable?

Between 2006 and 2017, I was vice president of the China Soybean Industry Association, in charge of its day-to-day operations. I participated in national policy consultations and facilitated cooperation across soy growers, processors and researchers. I also helped develop the China-South America Sustainable Soybean Trade Platform, a joint initiative of WWF, the Paulson Institute and Solidaridad, and also the China Sustainable Soy Guidelines, the first such document in China.



Soy plantations in Brazil's Cerrado savannah. The area was once covered by lush vegetation
Photo: Alamy

I'd like to share my take on these questions.

PROFITABLE ANIMAL FEED IS DRIVING SOY EXPANSION

Since the Second World War, the human population has grown from 2.5 billion to 7.7 billion. Over the same period, arable land worldwide increased from 1.2 billion to 1.72 billion hectares. The most significant change in agriculture has been the sharp expansion in land used for soy cultivation.

The rapidly growing livestock industry needed sources of protein for fodder. Originally that came primarily from fishmeal. Now fisheries are exhausted, soy is used instead. Between 2008 and 2020 the amount of soybean meal used in animal fodder worldwide increased from 151 million to 254 million tonnes. In China, the rise was from 31.67 million to 76.83 million tonnes. The livestock industry consumes soy protein and produces meat, eggs and milk.

Soy and corn are both key raw materials for fodder production. Corn, a source of starch, can be replaced with other staple crops. But no other crop offers an alternative to soy as a source of protein, and the livestock industry's demand for it is inelastic. Soy has therefore become the world's most wanted, and possibly most controversial commodity crop.

76.8 million

tonnes of soy were used for animal fodder in China in 2020

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The harsh facts of extinctions, climate warming and pollution have been warning us that the law of the jungle does not work for human society

Both its supply and demand have increased, and the market has become global: if one country plants less soy, another responds by planting more; lower imports in one country mean another will buy in more. We cannot look only at the major players like Brazil, China and the US.

Most tropical vegetation loss has been occurring in South America. This is not like in the past when farmers might clear land to provide a living for

their families. Nor is it entirely the fault of Brazil or Argentina. I have visited sites of deforestation in South America and seen primary forest burned to ash and ancient trees pulled from the ground by heavy machinery. The loss of forest and animal habitats is devastating. That modernised process of deforestation is driven by profitability, and this is not unique to South America – the same has been seen in other regions like Southeast Asia.

After clear-cutting, the vast tropical land is ideal for large-scale agricultural operations. Combined with mechanisation and the liberal use of weedkillers, pesticides and fertilisers, this makes South America the cheapest region in the world to grow soy, a major advantage on the global markets.

Meanwhile in Russia and elsewhere in Eastern Europe, we see large amounts of farmland lying unused. The stark contrast represents a failure of global agriculture.

As everyone knows, there is a duality to capital. On one hand, it flows and as it flows it mobilises resources and creates value. But it is also exploitative, taking big profits at the expense of environmental health.

For almost a century the harsh facts of extinctions, climate warming and pollution have been warning us that the law of the jungle does not work

for human society. We must rein in capital and the harms it does and use new ideas and improved laws to protect the environment and ensure a sustainable economy.

WITH RISING CONCERN ABOUT NUTRITION, SOY IS NO LONGER THE UGLY DUCKLING

Soy originated in China, and 8,000 years ago humans were picking wild soybeans to eat. Farming of soy began 5,000 years ago and 2,600 years ago the Chinese started making tofu from soy. The Chinese people and the humble soybean have a long shared history.

Yet for some time policymakers regarded it as a low-yield crop, an ugly duckling not worthy of inclusion in food security plans. China has therefore become increasingly reliant on imports.

Currently, soy yields in China are less than 200 kilograms per mu (666 square metres), far less than for corn, rice or wheat. But look at it another way: Chinese-grown soy is 40% protein, a proportion higher than that of pork, beef, or egg – and several times as much as the equivalent weight of other grain crops. Soy is also 20% fat and is rich in folic acid and vitamin E – again, other crops cannot compete.

As China becomes more affluent, there is less focus on quantity of food, and more on nutrition.

Now we can see that soy, rather than being the ugly duckling, is actually a swan. More use of soy as food for humans, rather than livestock, would help provide nutrition and reduce the environmental pressures caused by soy cultivation for fodder.

SOY SUSTAINABILITY NEEDS GLOBAL EFFORTS – AND CHINA CAN LEAD

Protecting the rainforests and biodiversity, and combatting climate change, are crucial for humanity's future. We need to start working together today. No individuals, no companies, no countries can be left behind.

I believe six actions must be taken if we are to see sustainability of soy worldwide, some of which require changing policies and consumption habits in China.

1. *Developed nations and multinational grain traders should support legislation to stop clearing of tropical vegetation in South America, and refuse soy associated with illegal clearing*

Developed countries have accumulated capital and technology that give them advantages in global markets. Countries in South America and elsewhere are less developed and need the economic boost from expanding farmland. But they also have a responsibility to protect tropical ecosystems.

Other countries should understand the situation South American countries are in and help them to develop other sectors of their economy, expanding non-agricultural job opportunities and reducing reliance on agricultural expansion via deforestation.

International traders should use their influence to support legislation and existing initiatives protecting South American ecosystems and refuse to buy soy associated with illegal clearing. Two-thirds of the global trade in soy is bound for China. Chinese firms have worked with international organisations to produce the China Sustainable Soy Guidelines, setting forward principles for sustainable development designed to protect the environment, increase soil fertility, prevent chemical and biological pollution, and provide safe and healthy crops, along with quantitative indices. Chinese firms including the China Oil and Foodstuffs Corporation (COFCO), the China Grain Reserves Corporation and the Jiusan Group have made clear in their procurement policies they will not buy soy associated with illegal deforestation. These represent actions China has taken to encourage sustainable development of the soy sector.

2. *Work with countries in Eastern Europe and Africa to use abandoned farmland to expand soy cultivation*

China's Belt and Road Initiative provides a new opportunity for agricultural cooperation with countries in Europe and Africa. Its agricultural universities and companies are currently working in Russia, the Ukraine, Belarus and Uzbekistan to make use of both abandoned farmland and wasteland with agricultural potential. Improving crop varieties and technology will also allow soy to be planted more widely. Currently, Russia produces a mere 4 million tonnes of soy, and exports only 800,000 tonnes to China, but potential exports could reach 20 million tonnes. Developing soy cultivation in Russia alone would stabilise China's soy supply and reduce pressure on South American forests.

3. *Adjust food security policies to subsidise crop rotation, rather than harvests*

There is no need to choose between soy and corn in food security policies, as constantly changing rules can leave farmers unsure about what to plant. China's home-grown soy is used mainly for human consumption, while its corn is used for animal fodder. Experience has shown that rotating corn and soy crops in the northeast of China results in consistently high yields. But subsidies for just corn or just soy result in repeated planting of that crop, and so crop rotation and its advantages are lost. Instead of subsidising corn or soy, I suggest the state

subsidises the rotation of the two. Farmers will have certainty about what to plant, rather than worrying over which subsidy to choose, and we will gain higher yields and more stable production of both crops.

4. *Strict enforcement of the law regulating soy trading, to ensure healthy development*

Soy grown for human consumption and for animal fodder have diverged, becoming two separate products with different markets, prices and policies.

About 80% of global soy production is used in animal fodder. Virtually all of China's soy imports from the US, Brazil and Argentina are used in this way, and Chinese law requires that these imports go directly to a processing plant and are not resold. The processed soybean meal is used almost exclusively as raw material for animal fodders.

Meanwhile, China is the world's largest grower of soy for human consumption, with the non-GM, high-protein variety grown there used in food production. European food processors import large quantities of Chinese-grown soy protein, which has a 50% share of the global market for soy protein for food use.

On the international markets, soy for human consumption is usually 800 yuan per tonne

(US\$123) more expensive than soy for fodder. This means some illegal traders break China's rules on GM foods and pass the cheaper product off for human consumption. That undercuts legitimate soy growers and is a food safety risk. The customs authorities, market regulation authorities and law enforcement bodies should proactively tackle such behaviour to maintain an orderly market and protect China's domestic soy growers.

5. *Build on China's soy consumption habits to provide an alternative to animal proteins*

Soy is a jewel in the crown of Chinese cuisine. The Chinese have used soy to produce an impressive variety of products – tofu, soymilk, tofu skin, fermented soybeans and soy sauce. China's culture of soy consumption is spreading around the world and is at the heart of a trend towards plant proteins.

The Chinese government is trying to balance out consumption of plant and animal proteins. Soy protein contains eight of the nine essential amino acids we require and can be consumed directly. Experts say that when soybean meal is used for animal fodder, we obtain 1 kilogram of animal protein for every 2-4 kilograms of soy protein – a waste of resources. A more balanced structure making better use of plant proteins would be

healthier. And every extra tonne of soy used for human consumption could reduce its use in animal fodder by 2-4 tonnes.

I suggest the state focuses as much on developing the use of soy in food as it does on growth of the livestock industry. I suggest it encourages scientists and companies to work together to improve processing techniques, boost output and quality, and promote the use of soy nutrients as plant-based meats, milk alternatives, peptides, amino acids and soy lecithin. Meanwhile, we can improve the make-up of our livestock industry by

increasing the proportion of grass-fed animals, improving animal fodder and boosting the utilisation ratio of protein.

6. *Reduce food waste from restaurants and the kitchen table*

According to a recent report from the National People's Congress Standing Committee, the catering sector in Chinese cities wastes about 34-36 million tonnes of food annually. A university study found households waste 17% of their food, while 20% of food on restaurant tables lands in the bin. Meanwhile, data from the State Council Information

Office shows that over 50% of Chinese adults are overweight or obese, with the levels increasing for all age groups and areas in China.

Cutting that waste in half would save China over 60 million tonnes of food a year. That would free up land for soy cultivation, greatly reducing our reliance on soy imports and balancing global supply and demand. The reduced demand for meats and fats, meanwhile, would greatly reduce use of soy for animal fodder. Preventing food waste is a green approach to protecting tropical vegetation. 

[Fermín Koop](#)

Uruguay plans to boost beef production and lessen its climate footprint

Eyeing China, Uruguay's government has a plan to increase beef production by 30% over 10 years through more rotational grazing

In just 10 years, Uruguay could boost its estimated 600,000 tonnes of annual beef production by 30%, according to a new plan presented by the national government. It hopes to achieve the goal through the widespread use of a technique known as rotational grazing, which has the added benefit of avoiding major environmental impacts.

Uruguay has more than 11.5 million cows that graze across 80% of the country's territory. It is

estimated that each animal enjoys the equivalent of two football pitches of grassland. This means very extensive but also inefficient production as large parts of the pasture are not used by cattle, farming experts say.

The government of President Luis Lacalle Pou is committed to converting the majority of producers to the rational or rotational grazing, whereby all cows are concentrated in herds and rotate through different plots of land. This



Cattle graze in Uruguay's grassland
Photo: Alamy

fattens animals quicker and increases productivity.

“The animals eat all together in one field, leave their faeces and urine, and then move to another. This is what the herds originally did,” said Pablo Caputi, knowledge manager at Uruguay’s National Meat Institute of (INAC). “This allows the plots not to be overused and the pastures to degrade.”

Caputi is the author of INAC’s recently presented strategic plan, a 10-year roadmap for Uruguay’s beef industry. In it, the government claims it is possible to increase production through rotational grazing without generating more pollution.

The technique, developed in 1960 by French farmer Andre Voisin, posits that pastures must have enough time to recover between grazing periods in order to

Did you know...?

Cows outnumber people in Uruguay by a ratio of 3:1

reach their full potential. Cows must move regularly from plot to plot, fertilising the soil with their waste.

“Rotational grazing allows you to have more calves per hectare and increase productivity. You generate more and better quality grass,” says Felipe Urioste, director of Pampa Oriental, an Uruguayan organisation that promotes holistic management of cattle and a local hub of the Savory Institute. “Everything in the government’s plan is what we have been proposing for years.

URUGUAY: A BEEF FARMING TRADITION

Produced in the open, free from hormones and antibiotics, Uruguayan meat has earned a prominent place among consumers around the world, especially in China. 70% of the meat produced is exported, of which China buys more than half. So far this year, shipments to China have grown by 53%.

For Uruguay, beef is part of its national identity and accounts for a large part of its economy. There are 48,000 cattle farms in the country, most of them family-run, producing traditional cattle breeds such as Hereford and Aberdeen Angus. The country has the highest per capita meat consumption in the world.

Of all livestock production in Uruguay, only 10% occurs in feedlots,

10%

of Uruguay's livestock is raised in feedlots, compared to around 70% in neighbouring Argentina

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Uruguay does not have native forests, so the expansion of livestock has not caused deforestation. Cows coexist with a grassland ecosystem that consists of over 400 grass species.

enclosed fattening areas where cows feed on grains. The rest happens in the open air where cows are grass-fed, meaning lower energy consumption and a smaller carbon footprint.

Unlike neighbouring Latin American countries Brazil and Argentina, Uruguay does not have native forests, so the expansion of livestock has not caused deforestation. Cows coexist with a grassland ecosystem that consists of over 400 grass species.

All these attributes enable Uruguay to build a brand associated with caring for nature. Furthermore, the country has a mandatory traceability system, which assigns an identification code to each animal. The system allows each cow's place in the production chain to be known in real

time, enhancing food safety.

The challenge now, however, is to increase production and productivity, which has remained largely unchanged since 2004, hence INAC's new plan. The strategy aims to increase Uruguay's beef production without jeopardising the standards for which the country is widely recognised.

The plan focuses on the economic, social and environmental sustainability of cattle production in Uruguay. On the economic side, the aim is to have viable companies operate under market conditions. On the social side, it aims to generate more employment, and on the environmental side, to

maintain biodiversity, make better use of water and improve the nutrient cycle in the soil.

“The government created a new ministry of environment, a sign that this agenda is important to us. Introducing new livestock practices such as rational grazing will allow us to capture more pollutant emissions,” says Caputi, adding: “we will also take better care of our soils and prevent soil erosion.”

Half of Uruguay's greenhouse gas emissions come from livestock, according to the country's emissions inventory. The government hopes that the better management of pastures, some of which are degraded, will allow more polluting gases to be captured. For Caputi, the country could soon even become carbon neutral.

A FOCUS ON CHINA

For INAC, the relationship with China is a central part of its new strategic plan. Although Uruguay cannot compete in scale with countries such as Brazil or Argentina, the aim is to build its brand of a safer, more environmentally friendly beef and thus sell at a higher price.

E-commerce platforms are currently the main method of selling for Uruguayan beef in China, and that is where INAC is focusing its efforts. A random search for “Uruguayan beef” on the most renowned Chinese sites, such as

Tmall, Taobao and JD, returns hundreds of options for Uruguay's different beef products.

Uruguay made contact with importers and distributors and has had a presence at trade fairs, such as the recently organised Anufood. INAC also opened an office in China last year to provide support to exporting companies, in addition to promoting Uruguayan beef.

In online videos, Chinese celebrities claim that Uruguay's beef is "safer" than that of Australia, which has a good reputation as a producer internationally but over the past year has been embroiled in trade and diplomatic rows with China. It is one of the main beef exporting countries to China alongside Argentina, Brazil and Uruguay.

Market research on the importance of traceability for Chinese consumers reveals that most value it as a way of ensuring food safety, although the concept needs to be strengthened among some groups.

A survey of 542 consumers in China's northeastern Jilin province found that consumers are very concerned about the current quality and safety of beef products, with 87.09% saying they would usually pay attention to beef quality and safety-related information. However, the degree to which Chinese consumers care about traceability varies greatly

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A survey of **542 consumers** in China's northeastern Jilin province found that consumers are very concerned about the current quality and safety of beef products, they saying would usually pay attention to beef quality and safety-related information.

Jilin province

according to income, level of education and region, surveys showed.

Daniel Castiglioni, a trader of Uruguayan beef in China, says the quality standards and traceability of Uruguayan beef matter to Chinese consumers.

"The demand for the product is there and if Uruguay were to produce more, it would have no problem selling it in China. The government has done a very good job of positioning itself in China and this has helped to differentiate Uruguayan meat from that exported by other countries. Consumers see it as sustainable," he said.

For Urioste, Uruguay has to transform itself into a "boutique" beef country and for that it must bet even more on China. The growth of purchasing power in the Asian country will lead to greater demand for value-added meat, perhaps even that with negative emissions.

Uruguay's growing sales of beef to China reflect the current strong relations between the two countries, which have a strategic partnership agreement in place since 2016. Uruguay was the first country in South American trade bloc Mercosur to join China's Belt and Road initiative, which its neighbours have yet to formally endorse. 🇺🇾

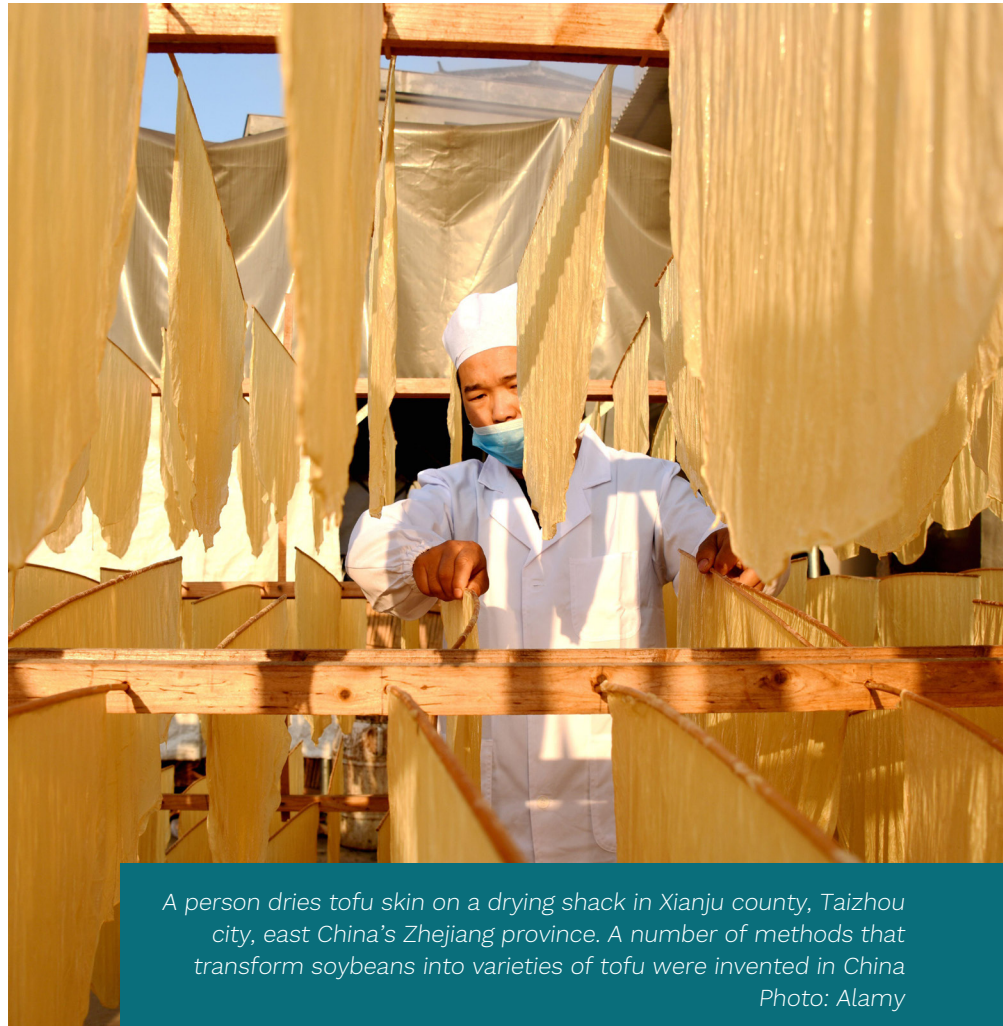
The dual identity of soybeans and their sustainability opportunities

Heilongjiang's famed green soybeans are making a comeback with the popularity of plant-based diets while Chinese soy importers are working towards traceability and certification.

Despite the economic prosperity the globalised soybean industry has brought, it remains a volatile one that is often associated with deforestation and biodiversity loss. However, looking back at the history of the miracle crop, it has been a direct source of protein for humans and often sourced locally.

While China has built up a global trademark for the famous Pu'er fermented tea and associated it with its place of origin in the southwestern province of Yunnan, the origin of soybeans is less commonly known, lacking the prestige and cultural reputation of the tea.

Part of the challenge for soybeans to build up a prestigious reputation like



A person dries tofu skin on a drying shack in Xianju county, Taizhou city, east China's Zhejiang province. A number of methods that transform soybeans into varieties of tofu were invented in China
Photo: Alamy

tea, is that domestically produced soybeans and imported soybeans are not adequately recognised as distinct products that have starkly different uses in China.

SOYBEANS' HISTORY IN CHINA: GREEN HUMAN SUSTENANCE

Domesticated in China's Northeast region thousands of years

ago, most of China's total domestic soybean production is located in Heilongjiang Province that prides itself on its black soil and non-genetically modified cultivation to produce safe, healthy and green soybeans.

Just like Chinese tea leaves, Chinese soybeans traveled around the world, now being produced in nearly all corners of the

globe. Brazil, now the world's largest exporter of soybeans, is believed to have got its first batch of soybean seeds directly from the then troubled Northeast China (then known as Manchuria) in the 1930s.

China also invented the methods for transforming soybeans into different varieties of tofu and there have been efforts to introduce it outside of East Asia. In the 1900s, Li Shizeng, the educator and an early member of the Chinese Nationalist Party, registered patents for tofu-making, a process akin to that of cheese and yoghurt, in France, and opened a tofu factory in Paris, which supported Chinese students, some of whom would later become prominent revolutionaries, to serve as a prototype for an industry he believed could help China to meet its dietary needs.

In 1917, a Chinese doctor named Yamei Kin was sent by the US Department of Agriculture to her home country to research soybeans as a source of protein to feed American soldiers during World War I. As a celebrity dietitian of her time, Dr. Kin introduced soybeans as a healthy and “nutritious alternative to meat, that required fewer natural resources to produce”.

The story of soybeans diverged in China during the “Reform and Opening-up” period starting from 1978, when the feed sector was endorsed by

the government as a key industry to transition China's consumption towards a more protein-rich diet including meat, poultry and milk, using soybeans as a protein for animal feed and increasing demand exponentially.

85%

of China's soybean consumption is hidden in animal feed, mainly imported from Brazil, the US and Argentina.

Today, as the largest importer and consumer of soybeans globally, nearly 85% of China's soybean consumption is hidden in animal feed, mainly imported from Brazil, the US and Argentina. Nevertheless, China is still the fourth largest producer globally, providing GMO-free soybeans for direct human consumption.

The world largely focuses on the implications of China's soybean imports, overlooking domestic production in China. However, these two sides of the soybeans' story are interrelated. With high-quality and sustainable development the central theme of China's 14th Five-Year Plan, China emphasises

the interconnectedness of people's well-being and environmental protection. With safety and quality assurance becoming the business norm in China and an entry-level requirement for consumers, sustainability and “greening” are becoming the next steps for government and businesses with regard to soft commodities such as soybeans. This has implications for both soy as a domestically grown food and imported feed.

GREENING CHINA'S DOMESTIC SOYBEAN PRODUCTION

Up until 2017, China's Northeast region saw a steady decline in the total soybean planting area, as farmers lacked the incentive to grow soybeans when they could get a better price and subsidies to grow corn. At the same time, they faced lower yields in comparison to other producing countries such as Brazil and the US.

While the sustainability challenges in China's soy production are rooted in the economic viability for farmers, Heilongjiang Province already considers its production to be “green”, and free of deforestation risk. The region continues to provide soybeans to meet the demands for China's vast varieties of tofu, soy milk and soy sauce products— everyday products consumed across the country, comparable to milk and cheese consumed across Europe.

Based on consumers' preference and perceptions, China has maintained a strict GMO-free policy for products that are for direct human-consumption, with Heilongjiang Province a GMO-free soybean planting region. The province also requires soybean companies that operate both domestic and imported soybean crushing to ensure segregation practices for GMO-free soybeans to ensure they're not mixed up.

This has led the industry to adopt its own traceability systems. The system that was put in place to guarantee GMO-free soybeans has provided a foundation for the new trend of greening the industry. Jiusan Group, a large soybean growing, processing and trading enterprise, launched its green traceability system back in 2018. The initiative was updated this year with the utilisation of China's organic and green certification standards in an effort to provide consumers with health and quality assurance. Details on the initiative, however, are still vague and limited.

With government encouragement, industries in China are increasingly turning to international standards as an important benchmarking tool to guarantee quality, safety, and green products, whilst at the same time enabling companies to sell products at a higher price. China's leading soybean oil brands built up a reputation to

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provide green, healthy and safe soybeans, notably sourced from China's Northeast region.

Back in 2014, the state-owned Sinograin North Agriculture Company was a pioneer to first implement an international soy standard in China, certifying its 24,000 hectares of soybeans under the internationally-recognised Round Table for Responsible Soy (RTRS) certification criteria. With support from the China Soybean Industry Association and the Dutch-based organisation Solidaridad Network, this was the first social undertaking of its kind by a Chinese enterprise, despite the lack of any market demand for responsibly produced soybeans.

While RTRS certification guarantees environmental and social responsibility, including zero deforestation and conversion, the direct benefit to Sinograin

was adhering to Good Agricultural Practices to reduce fertilizer and chemical use, improve soy management and crop rotation, and improving the overall production management system, which provided more assurance to achieve higher yields. This drew the interest of neighbouring farmers, who joined Sinograin's RTRS certification training. Sinograin also sells the RTRS-certified soy credits to European buyers and the physical beans are sold to leading Chinese tofu brands.

This cooperation between Sinograin North and RTRS is symbolic for soybean producers worldwide, as this joint effort helps to build up the reputation of Heilongjiang's famed soybeans. Now, RTRS-certified soy in China is gaining traction and interest from other companies and stakeholders. Heilongjiang soybeans are being sought

after not only by domestic companies, but also in Europe, Japan and South Korea, though in small volumes, with the rise in demand for plant-based proteins for direct human consumption.

PLANT-BASED PROTEINS GIVE DOMESTIC SOYBEANS A BOOST

While soybeans have been hidden in and fed into rising animal protein consumption globally, they are now making a comeback as the sought-after plant-based protein for humans they once were. This is also true for China, among its younger generations in particular, who choose to eat less meat for health reasons, and also care about animal protection and the environment.

Multinational meat companies, Chinese start-ups and investors alike are optimistic about the growing plant-based industry in China. In June 2020, Cargill launched its plant-based brand “PlantEver”, selling plant-based nuggets in KFCs across China and through its e-commerce site. On the packaging, PlantEver’s slogan highlights “protecting the environment and animal welfare”. Unsurprisingly, the plant-based brands in China rely on soybeans sourced from China’s Northeast region as the main protein ingredient. The price of plant-based products is similar to meat products, if not more expensive, which

increases the value of these soybean-based plant protein products.

While the trend is unlikely to drastically reduce overall meat consumption within China, the plant-based industry is growing with the change in consumers’ preferences. Besides the environmental benefits of the plant-based food industry, the preference of the brands and companies for regional sourcing creates new opportunities to market China’s domestic soybeans as a sought-after trademark.

Consumers in the EU and US are also increasingly demanding plant-based proteins from GMO-free, deforestation-free soybeans. It is nothing new to see European buyers coupling GMO-free with deforestation-free as requirements for the sourcing of soybeans, based on consumer preferences and concern about the environment

“Europe is turning to both regional sourcing and other regions to fulfill these requirements, and often willing to pay a premium price.”

and deforestation that governments share. Europe is turning to both regional sourcing and other regions to fulfill these requirements, and often willing to pay a premium price.

Therefore, just as Pu’er tea has built up a high-value reputation that makes consumers willing to pay more for tea, Heilongjiang soybeans now have the opportunity to develop a similar reputation in plant-based proteins, including tofu. This requires transparent and traceable sustainability actions and clear differentiation in the market that demonstrates their high quality and sustainability through brand recognition and eco-labelling.

SUSTAINABILITY CAN BE THE NEW TREND IN CHINA’S SOYBEAN IMPORTS

Soybeans’ other identity is as an internationally traded commodity. China continues to rely on soybean imports to meet the ever-increasing demand for feed. With the animal husbandry sector, particularly swine, poultry and aquaculture industries driving the demand, these industries are also making efforts to green their supply chains.

China will continue to rely on soybean imports, but will be demanding assurances that they are high-quality and sustainable. Government and financial institutions are recognising

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In 2017, the China Meat Association and WWF together with over 60 member company signatories launched the China Sustainable Meat Declaration calling on concerted actions towards promoting sustainable meat production, trade and consumption.

deforestation and habitat loss as the greatest risks in the soy industry. COFCO International, the trading arm of COFCO Group, made commitments last year to achieve full traceability of its direct soy suppliers in Brazil by 2023. In 2017, the China Meat Association and WWF together with over 60 member company signatories launched the China Sustainable Meat Declaration calling on concerted actions towards promoting sustainable meat production, trade and consumption.

More recently, the poultry company, Sunner Group, announced its commitment to achieve zero deforestation in its soybean supply chain, working with the non-profit disclosure system CDP to develop a plan to achieve this target. The big question remains: is the rest of the world ready for China's growing demand for sustainable soybeans?

In response to China's

growing emphasis on sustainability, the US Soy Association, representing the second largest soybean producing country globally after Brazil, has been actively promoting its own sustainable soy production scheme, the Sustainability Soy Assurance Protocol (SSAP), in China. As a national sustainability scheme, SSAP ensures social and environmental responsibility, including biodiversity protection and zero deforestation, but also good labour conditions. The programme provides an SSAP-verified certificate free of charge for Chinese buyers.

In 2020, Liyang Chen Qiang Special Aquaculture Products Farm in Jiangsu Province became the first yellow catfish farm to successfully receive certification. The company uses feed only produced with SSAP-verified soybean products. This sets a good example of soybean producers implementing sustainability and marketing in China

across the supply chain. At the same time, Chinese soybean buyers are able to differentiate US soybeans with the guarantee that the soybeans are deforestation-free.

The world may continue to look at soybeans as just a “commodity”. However, the history and origin of soybean production and reclaiming the reputation of soybeans as a healthy and nutritious protein has enabled Heilongjiang to differentiate its soybeans and become increasingly sought-after. While the soy industry continues to be rapidly evolving and shaping its dual identity, both sides of the story demonstrate a greater emphasis on human well-being coupled with environmental protection to contribute to China's goals for achieving carbon neutrality and ecological civilisation.

The trends in China undoubtedly have a global impact, creating new and more value-added opportunities for soy producers across the globe. In the complex and fragmented global soy supply chain, producing countries will be at an advantage when they can differentiate soybeans by origin and guarantee that the soybeans are safe and green. Providing effective market mechanisms, such as the use of international standards and eco-labeling, will bring added value and draw the linkage between producers and key markets such as China. 



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