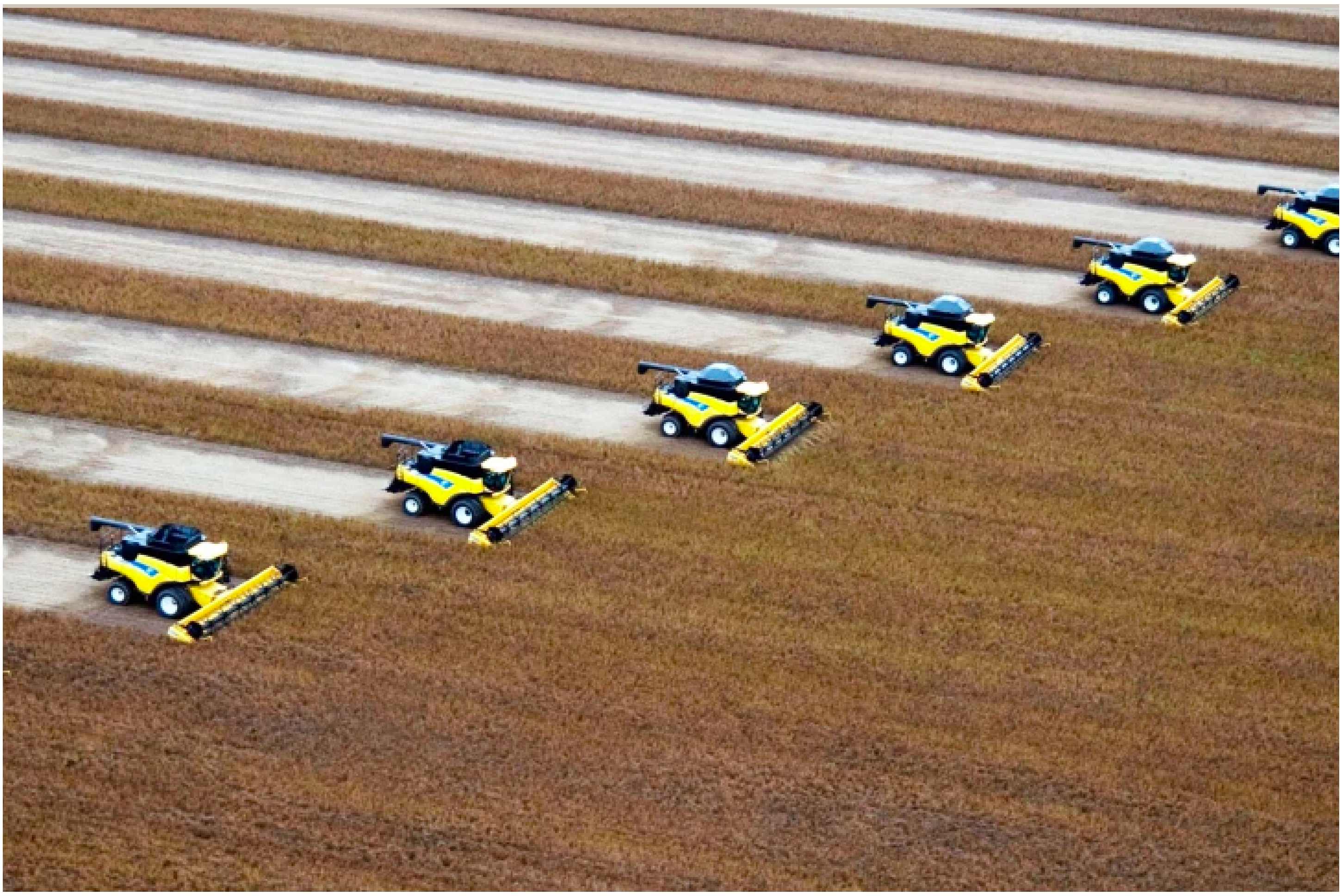

The Big Read Agricultural Commodities

Why soyabeans are the crop of the century

Farmers in the US and Brazil are in a race to meet demand for livestock feed as meat consumption in China soars

JUNE 20, 2017 by: Gregory Meyer, Andres Schipani and Tom Hancock

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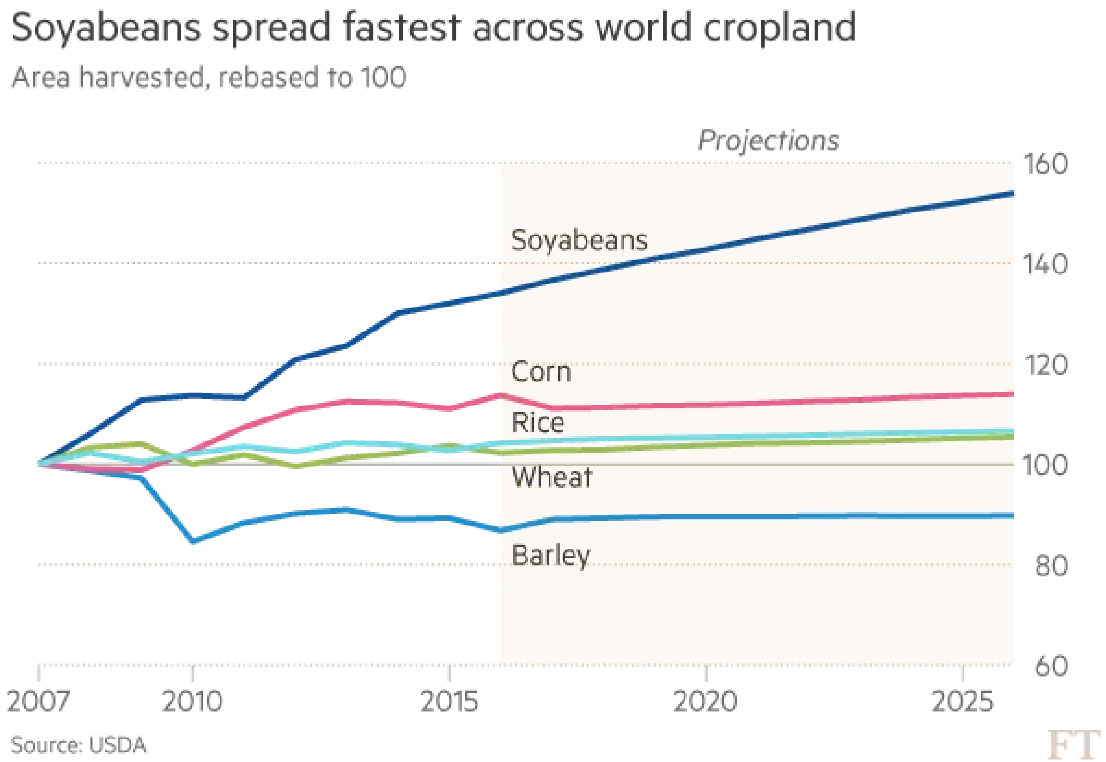
The fields outside Mohall, North Dakota, were until recently a collage of blue flax, yellow sunflowers and amber wheat. But today many are uniform patches of green at the peak of the summer growing season.

This new landscape is thanks to farmers such as Eric Moberg, whose 72-row air seeder planted thousands of acres with soyabeans this spring. "We didn't grow any beans four years ago. Now it's almost a third of our acre base," he says.

His windswept county on the Canada border is at the frontier of a shift in world food supply. As emerging Asia eats more chicken and pork, the soyabeans that put muscle on birds and swine have spread across global farms at a faster rate than any other field crop, covering an area 28 per cent bigger than a decade ago.

This year may mark a turning point. With planting almost complete, soyabeans are likely to have unseated corn as the most widely sown crop in the US, analysts believe.

The soyabean has driven deep into Brazil's interior savannah, Argentina's pampas and the US rural heartlands. Harvests have been big enough to deliver measurable bumps to the economies of Brazil and the US over the past year. In the next decade the ivory oilseed will drive total cropland above 1bn hectares (10m sq km) worldwide, expanding more than barley, corn, cotton, rice, sorghum or wheat, the US Department of Agriculture has forecast.

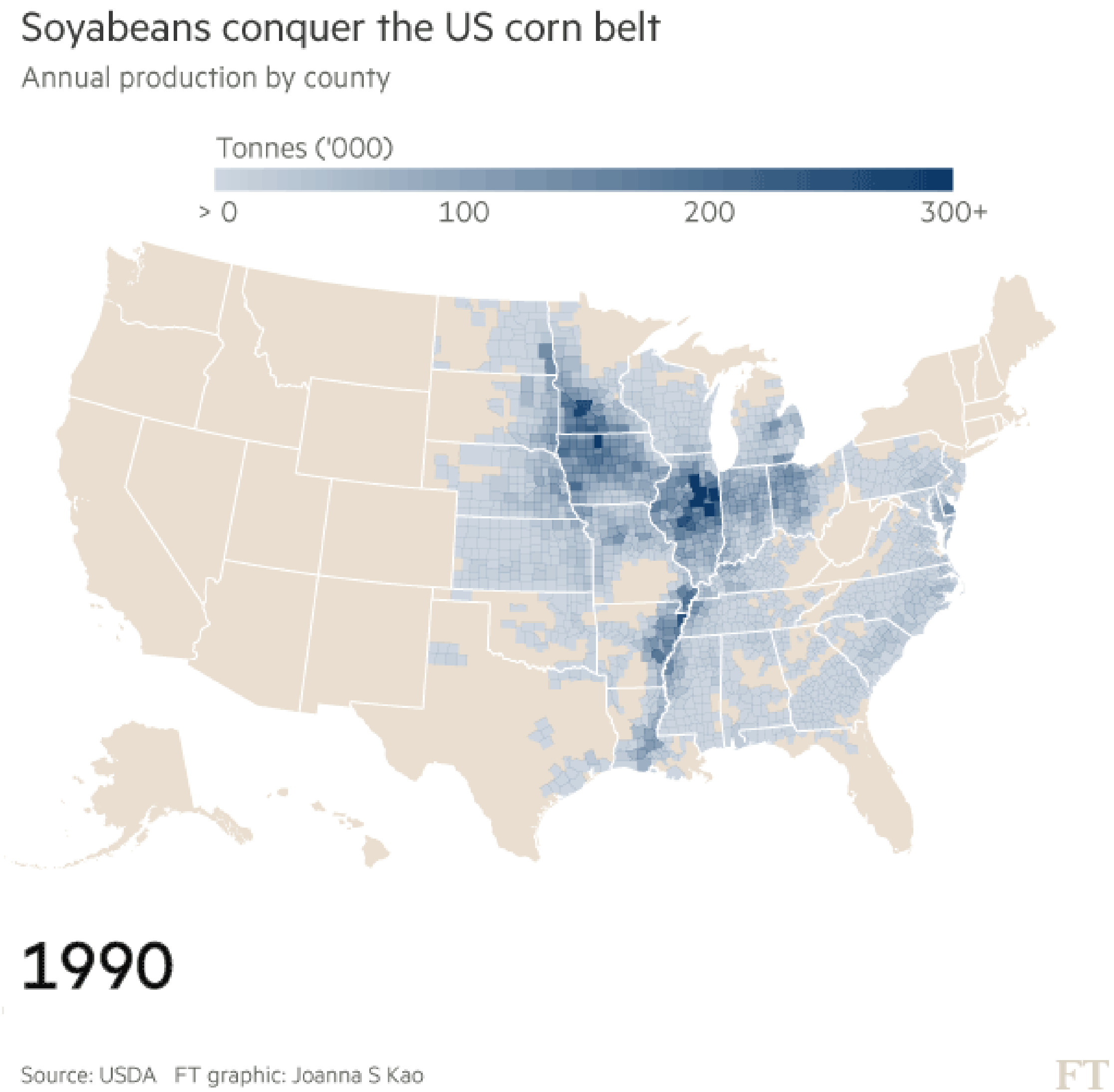


The triumph of the soyabean hinges on incomes in China. The country's imports have trebled in the past decade to an estimated 93m tonnes in the coming year, equal to 66kg per person annually — or five cargo vessels a day. Delegates from China's commerce ministry are due in the soyabean-rich state of Iowa next month to sign an agreement that could include a record purchase, the US Soybean Export Council says.

The shipments strengthened even as China's demand for industrial commodities such as iron ore and copper wobbled. "It's been a continued, phenomenal pace of growth," says Gert-Jan van den Akker, head of agricultural supply chain at Cargill, the food commodities company.

World demand for staples such as wheat has been rising in line with population growth at about 1 per cent per year. Soyabean consumption has been accelerating at 5 per cent a year — even more than corn, the main beneficiary of an aggressive US biofuels programme.

Any supermarket shopper knows soya is a versatile foodstuff, the source of tofu and cooking oil. Agribusiness has also transmogrified beans into goods such as ink, carpeting and biodiesel. But the soyabean plant's runaway popularity is down to its unparalleled protein content. Crushed, nearly 80 per cent becomes soya meal. Chickens, pigs and fish that eat it fatten fast.



"It's the only real protein that has all the essential amino acids to make for a complete feed. That's the magic of the soyabean," says Soren Schroder, chief executive of Bunge, the world's largest oilseed processor.

Soya meal sustains meat industries in the US, Brazil, Europe and elsewhere. Emerging markets in Southeast Asia and the Middle East are poised to consume even more, executives say. But a dietary transition in China has been the main driver of growth. The USDA projects China will import 121m tonnes of soyabeans in a decade, up more than 30 per cent from today.

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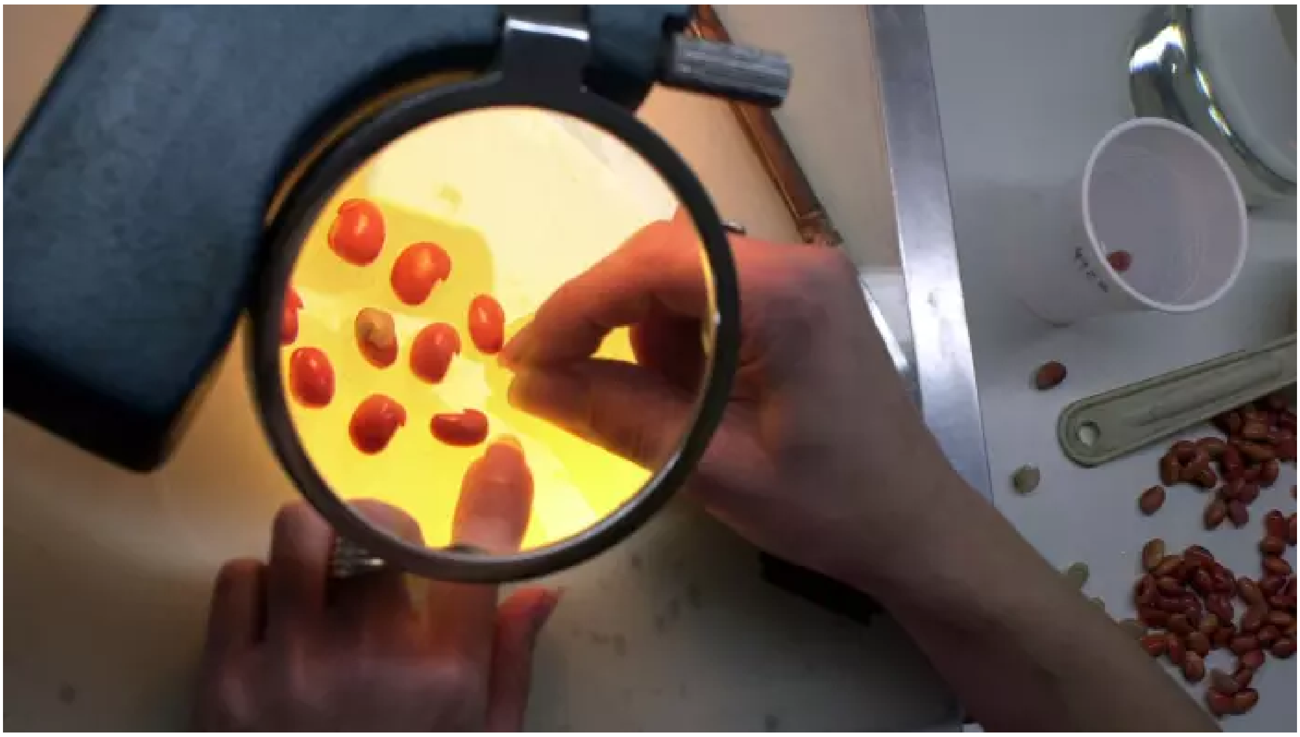
In 1989, when Shanghai's first branch of Kentucky Fried Chicken opened in a former British gentleman's club on the Bund riverfront, the average person in China ate about 20kg of meat a year. After almost three decades of income gains, annual per-capita meat consumption has surpassed 50kg.

KFC now operates 5,000 outlets in China and will add hundreds more this year. The Bund restaurant has moved to a less glitzy spot, but not a single seat was empty as diners tucked into chicken burgers, wraps and wings on a recent afternoon. "Everything sells well here," says stripe-shirted waiter Wang Shuai.

Bolstering the trend is an urban population that rises by roughly 20m a year, faster than China's overall growth rate, as city residents tend to eat more meat.

"We eat meat every day. It's almost become too much," says Ahmat Barat, a 41-year old taxi driver in Urumqi, the capital of China's northwestern Xinjiang region. "When I was young, we didn't have a fridge at home and we would only eat meat once or twice a week."

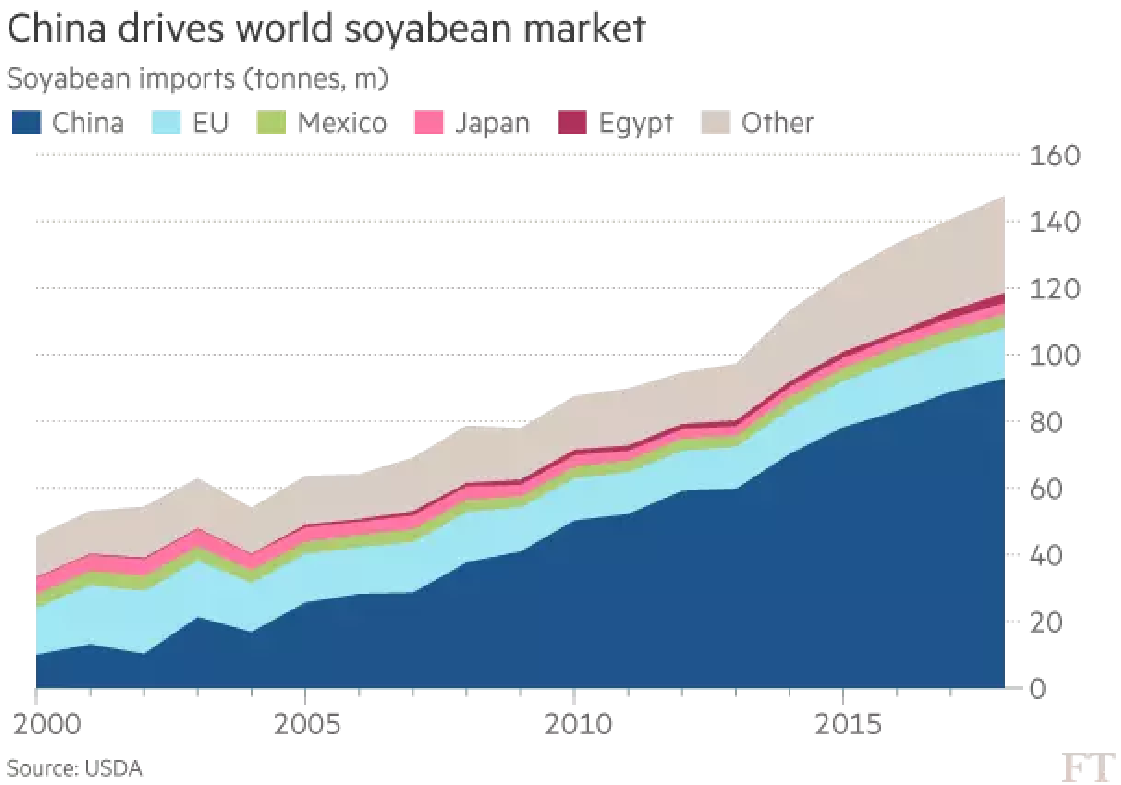


Soyabeans, seen here magnified under a bright light at a laboratory in Argentina, have an unparalleled protein content that makes them ideal for feeding livestock © Bloomberg

To satisfy this appetite, Chinese animal agriculture has emerged from small "backyard" operations feeding food scraps to pigs to industrial businesses. Agriculture ministry data cited by US diplomats show that large-scale poultry farms grew from two-thirds to more than 90 per cent of China's total and large-scale swine farms went from 16 per cent to an estimated 50 per cent between 2005 and 2015. Cargill, for instance, built a $360m poultry farm in Anhui province able to process 65m chickens per year.

The companies springing up to nourish the animals created fortunes for domestic tycoons: Bao Hongxing, chief executive of China's largest pig-feed producer Twins Group, is worth an estimated $1.8bn. Reflecting the surging sales, Dalian Commodity Exchange soya meal is now the world's most heavily traded agricultural futures contract.

China may be the ancestral home of the soyabean, but its harvests rarely nudge above 15m tonnes. The domestic crop costs more to produce than imports, so demand is mainly sustained by a ban on the use of genetically modified crops in everyday foodstuffs.



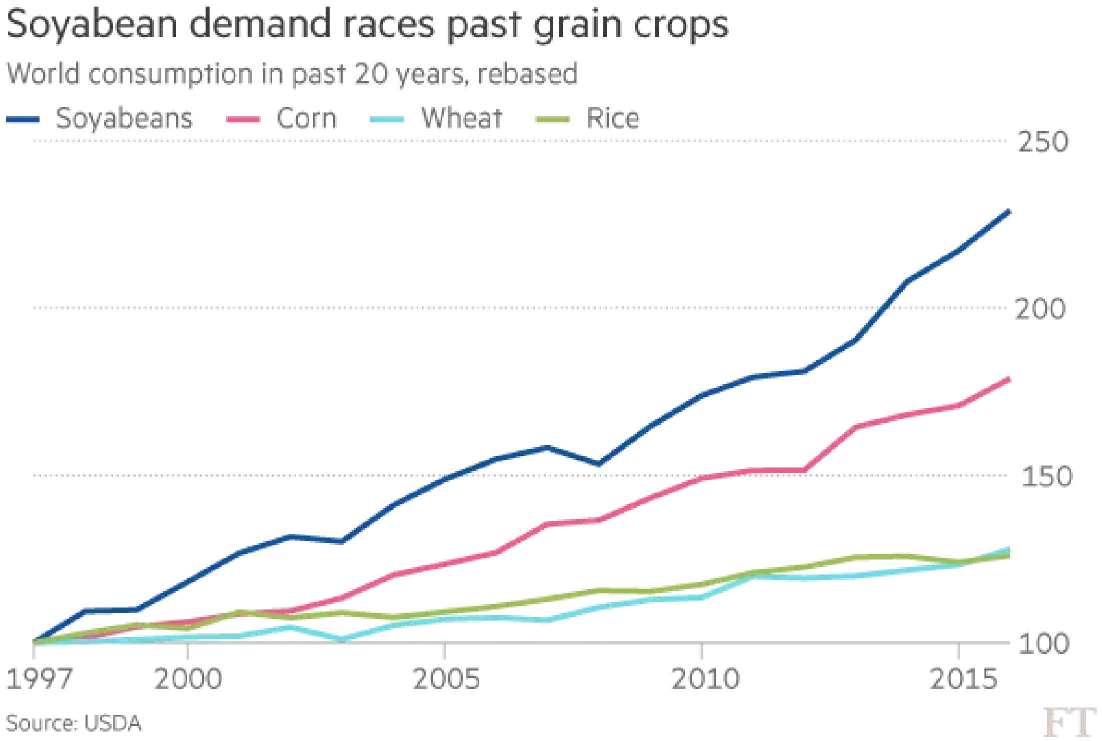
No such restriction applies to soya used in animal feed and cooking oil, so they now largely come from foreign crops with bioengineered traits such as pesticide resistance. Chinese leaders opened the door to soyabean imports even as they clung to a policy of self-sufficiency in staple food grains.

In response, companies are building an increasingly elaborate international soyabean conveyor belt. Cargill, along with China's New Hope Group and another local partner, in April opened a $100m soyabean crushing plant in a port city near Beijing. Across the Pacific, United Grain recently spent $80m to move more soyabeans and corn through its wheat export terminal on the Columbia river in Washington state.

"We ship five vessels per month of just soyabeans," which "typically go to China", says Brentt Roberts of United Grain, a unit of Mitsui of Japan.

A thousand miles east, in Lansford, North Dakota, the CHS SunPrairie grain co-operative that Mr Moberg chairs is building a railway loop that will allow trains to load the local harvest without stopping and slingshot back to the Pacific coast. "I just know a lot of them get on a boat and head to China," says Mr Moberg, his jeans muddy from planting.

US farmers are well aware of the importance of the China trade. After Donald Trump was elected president on a platform of protectionist policies, Beijing's state-run Global Times warned that "US soyabean and maize imports will be halted" if his administration made good on threats of punitive tariffs.



Washington-Beijing relations have been more congenial than expected so far, but regardless, industry executives on both sides of the Pacific do not sound alarmed. Indeed, Mr Trump's ambassador to China is Terry Branstad, Iowa's former governor.

"I don't see how they could ever quit buying from us," says Dusty Lodoen, a farmer in Westhope, North Dakota, who has spent time in China with a US industry delegation.

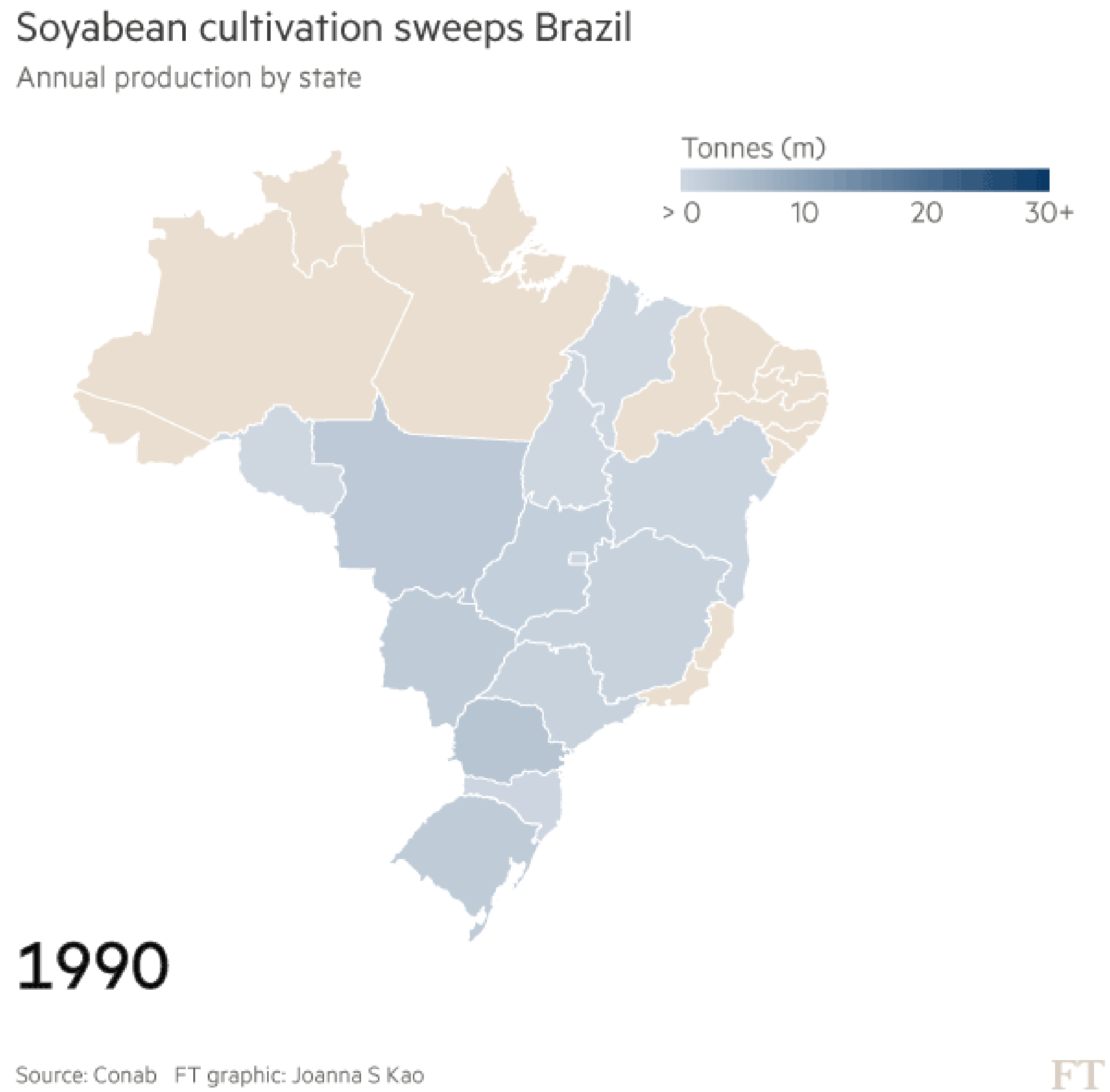
US farmers have been losing market share to South America, however. Last year Brazil supplied more than half of China's soyabean imports, the US 35 per cent and Argentina 10 per cent, according to the US agricultural attaché in Beijing. Conab, the Brazilian agricultural statistics agency, says the local crop this year was a 114m-tonne blockbuster.

* * *

Soyabeans have transformed the savannah around Sorriso, a city in Mato Grosso state, where the population rocketed from 17,000 to 83,000 in 25 years. "Soya is the flagship, the engine of Sorriso. Our farmers are real national heroes," says Ari Lafin, its mayor.

Sorriso only established itself as a town in 1986, roughly a decade after "colonisers", mainly of Italian descent, turned scrubland into farms as part of an Amazon settlement scheme. "There was no pavement, no telephone, no electricity," recalls Rodrigo Pozzobon, the local delegate of Aprosoja, a soyabean farm co-operative.

Now, farmers jog in the park under a withering sun, trade messages via WhatsApp with Brazil's agriculture minister Blairo Maggi — himself a soya billionaire — drive Land Rovers, wear branded watches and defy the country's worst recession on record. According to IBGE, a national statistics office, Sorriso's per capita income doubled from R$27,569 in 2010 to R$57,087 last year, among the country's highest.



In the 2017 harvest, the 2.23m tonnes of soya that Sorriso's producers bagged made it the top-producing district in Brazil. "Our main market is China," says Mr Pozzobon.

Pedro Dejneka of MD Commodities, a consultant, says Sorriso and nearby Sinop municipality used to be the northern arc of the soyabean industry. Now they're the "southern frontier," he says. And despite a worldwide grain glut, the soya area is set for a dramatic expansion in Brazil and Argentina over the coming decade, including on "uncultivated land", the USDA predicts.

This is causing consternation over the cerrado, the savannah region in Brazil absorbing much of the new planting. While the Amazon has been spared further deforestation by a 2006 industry-government "soy moratorium", the pact doesn't cover the cerrado.

Uses of soyabeans include tofu, soy sauce and other foods, food for animals, biofuel, paint, ink, adhesive and carpeting, among others © FT montage

Environmental campaigners have been pushing Brazil to widen the moratorium to the cerrado and pressuring international traders such as Bunge and Cargill to commit not to buy soya from farms on recently cleared land.

Glenn Hurowitz of Mighty, an environmental group, says that while cattle, paper and palm oil are forces of deforestation, "we see an immediate opportunity to dramatically reduce deforestation for soy because of the international nature of the soy market".

Bunge and Cargill have backed the moratorium and pledged to eliminate deforestation from their supply chains. But they say the cerrado ecosystem is different from the Amazon. The companies, farmers and NGOs are discussing where soya should or should not be off limits. "The definition of what's in and what's out, as you can imagine, is up for a great amount of debate," says Bunge's Mr Schroder.

Lately, soyabean prices have been well below the highs of a few years ago thanks to a succession of good crops in North and South America. But that hasn't deterred further planting.

"For years and years," farmer Guy Solemsaas says on a visit to a busy Mohall seed dealer, "there's just been incredible demand."

Climate change: Warming gives North Dakota a growth market

Remote, landlocked North Dakota is the coldest state in the contiguous US. This historically made it inhospitable for growing soyabeans, plants that thrive in hot, humid conditions. But technology, market forces and a changing climate have changed that.

Seed companies such as Monsanto have bred varieties that withstand its short growing season and take advantage of its long hours of summer daylight.

China's emergence as a soyabean destination favoured locations such as North Dakota, a relatively short hop to Pacific coast ports via the BNSF and Canadian Pacific railways.

"We're really only three weeks from China," says Nancy Johnson of the North Dakota Soybean Growers Association.

The state also got rainier, notwithstanding a drought this year. This boosted yields and filled its glacial sloughs, enhancing wetland habitat for birds. After flocks of blackbirds repeatedly devoured sunflower crops, farmers embraced the soyabean, with its encased pods, as a safer oilseed to grow.

North Dakota has warmed faster than any other US state, says Adnan Akyüz, the state climatologist. "The climate is providing more opportunity for the North Dakota farmer to get out of their comfort zone and start planting the types of crops that are usually planted to our south."

Local agricultural executives agree, if not with the cause. "The frost has moved farther and farther back now," says Jeff Kittell, merchandiser at a Border Ag & Energy grain elevator in Russell. "I'm not a big fan of global warming. I'm just saying, it is what it is. They're growing more soyabeans."

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