

BRIEFING NOTE

THE MIGHTY EARTH SOY AND CATTLE DEFORESTATION TRACKER

Recommendations for retailers to tackle deforestation
and clearance linked to agribusiness traders in Brazil



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SUMMARY

For a decade, supermarkets and consumer goods companies have committed to end deforestation associated with their supply chains.¹ However, in Brazil, the rapid clearance of forests and native vegetation to produce soy and beef for meat consumption continues.

Figures from the Brazilian space institute INPE in November 2020 showed that at least 11,088 square km of rainforest in the Amazon was razed from August 2019 to July 2020 alone – bigger than a country such as Lebanon or Qatar – and the highest annual figure for more than a decade.²

A new Deforestation Tracker released by Mighty Earth assesses the performance of the ten largest meatpackers and soy traders operating in Brazil. Based on satellite imagery, investigations and engagement with companies, Mighty Earth is able to assess these companies based on the extent, severity, and responsiveness to deforestation and clearance in their supply chain.

The Tracker shows more than 2,000 square km (200,000 hectares) of deforestation and clearance linked to these companies in just 18 months, as captured by Mighty Earth and Aidenvironment's Rapid Response monitoring system. This is a size considerably larger than London and equivalent to that of a megacity such as Mexico City, Bangkok or Johannesburg.³

This analysis reveals that meatpacker JBS and soy trader Cargill represent the poorest overall performers in our Tracker, due to the amount of clearance associated with their operations. JBS scores just 1/100 in our overall assessment and is linked to 42,538 hectares of deforestation and clearance since March 2019, with half classified as possibly illegal. Cargill scores 25/100 and is linked to 61,260 hectares of clearance since March 2019, with 10,999 classified as possibly illegal.

At present, there is no 'whitelist' of suppliers in soy or beef that could guarantee a clean supply chain from Brazil.⁴ However, the Tracker shows that Louis Dreyfus Company (LDC), AMAGGI and ALZ Graões represent better performing soy traders over the period of assessment – meaning they have been linked to less deforestation and clearance than the poorer performing companies, Cargill and Bunge.⁵

In beef supply chains, the companies Minerva and Marfrig represent the better performers of the companies assessed, with scores of 46/100 and 40/100 respectively.

It is notable, however, that no company has taken significant action to resolve cases of deforestation detected by our system or has illustrated a deforestation and conversion free supply chain.

Analysis of exports from Brazil reveal that the poorest performing companies are linked to supermarkets in the United States, UK, Germany, the Netherlands and France.⁶

JBS holds nearly half of the share of beef products that are exported from Brazil to the US, according to latest available data.⁷ Further, US supermarkets exposure to deforestation risk is set to increase sharply after the US government lifted restrictions on imports of fresh and frozen beef from Brazil in March 2020.⁸

European supermarkets are similarly exposed to the poorest performing soy traders. Cargill holds a 70% share of the direct export market of Brazilian soy to the UK. Both Cargill and Bunge also hold significant market share in France, the Netherlands and Germany. Soy then enters the supply chain of supermarkets through animal feed and ultimately in the form of chicken, pork and dairy products.

Supermarkets are large volume buyers of beef, chicken, farmed fish, pork and dairy products in Europe and the United States. They have a responsibility to ensure that their supply chain is deforestation-free.

Specifically, leadership teams and procurement managers within supermarkets should:

- **Ensure that the company has a strong no-deforestation and no-conversion policy that covers both beef and soy and all sourcing areas.**
- **Insert clauses in contracts of meat suppliers to specify deforestation-free conditionality in sourcing arrangements.**
- **Improve the traceability of the meat supply chain to include public information on sourcing arrangements for both direct and indirect suppliers.**
- Use an **escalation approach of engagement, retention, suspension and then exclusion** for non-compliant suppliers and traders as recommended by the Accountability Framework Initiative. This approach should include immediate suspension for cases of repeated non-compliance.
- Barring significant progress among the worst-performing traders, supermarkets should **consider shifting sourcing preference to better performing companies on deforestation and clearance**, as per Mighty Earth's Tracker and Soy Trader Comparison.

MIGHTY EARTH'S SOY AND CATTLE DEFORESTATION TRACKER

The insatiable demand for meat in Europe, the United States, and middle-income countries, has led to booming demand for beef products as well as soy, which is used as a cheap protein to feed pigs, farmed fish, chickens, and cows.

This increase in demand for meat has encouraged farm operations in Brazil to expand into forested areas and tropical savannah – causing an environment and human catastrophe of deforestation, clearance of native vegetation and land grabs. As a result, beef and soy production are the top two drivers of land conversion in Latin America.

A handful of companies that trade soy and cattle to international markets facilitate this deforestation and clearance. Soy traders and meatpackers exert disproportionate influence over production on the 'mega-farms' supplying them, and in turn, play a critical role in ending deforestation and promoting more sustainable land use.

The Tracker monitors these traders and meatpackers, publicly reporting on their links to some of the largest cases of land conversion in Brazil. Each month, Mighty Earth, and our partner Aidenvironment, release Rapid Response reports on cases of deforestation and native vegetation clearance connected to the supply chains of Brazil's ten largest EU and US exporting soy traders and meatpackers.

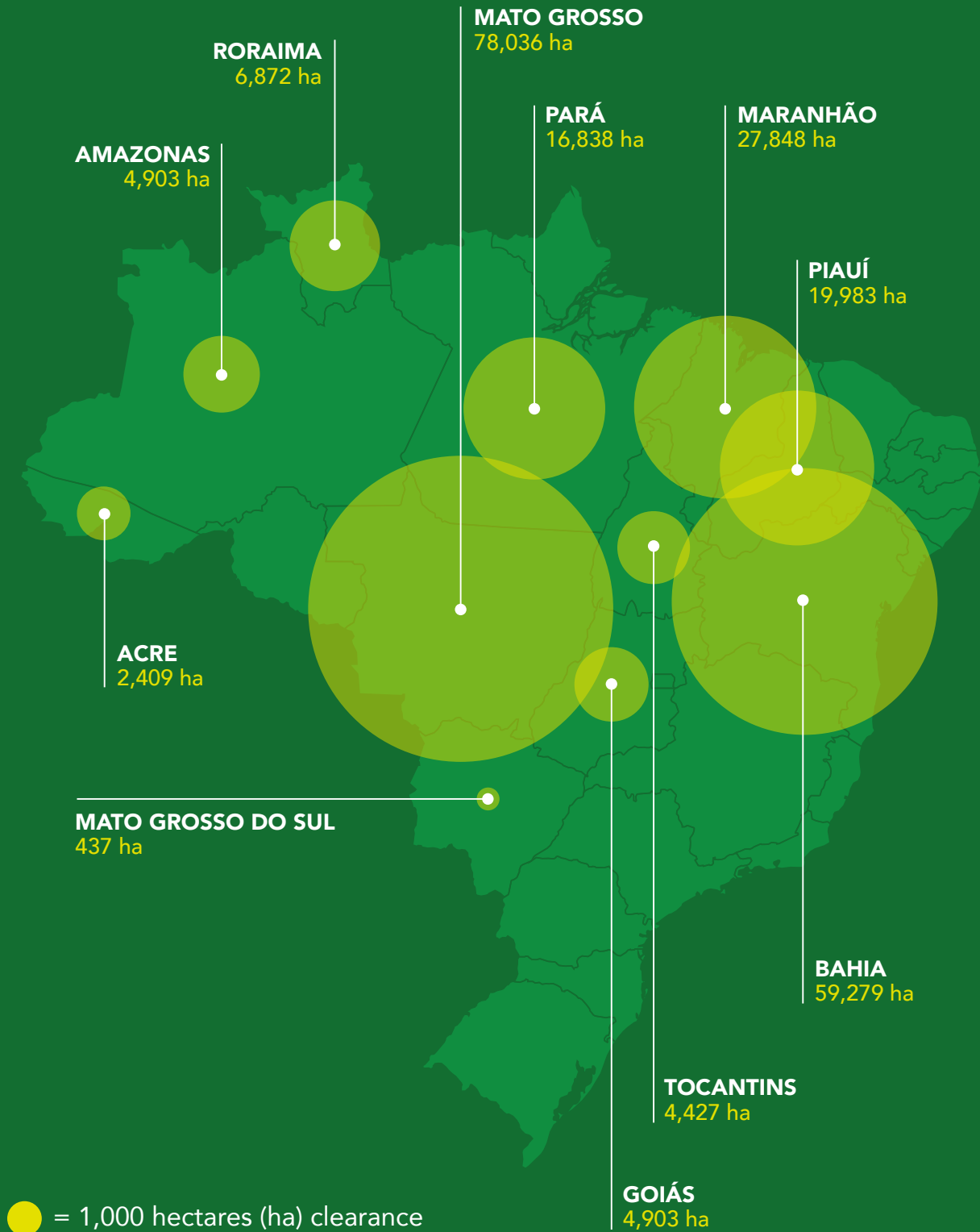
Using this data, the Tracker links identified cases to the traders and scores the companies based on the scale, severity and responsiveness to the cases.

While the tracker does not give a picture of the full scale of deforestation occurring in Brazil, it highlights over 2,000 square kilometers (200,000 hectares) of some of the worst cases of deforestation and clearance from March 2019 to November 2020 – and how this is linked to the largest traders and meat packers operating in Brazil.

The Tracker can play a critical role in supporting supermarket buyers and supply chain managers to assess the best and worst performing meatpackers and soy traders. With up-to-date information on the largest incidences of deforestation – and discrete information on how they are linked to their suppliers – supermarkets are better equipped to compel the soy traders and meatpackers to take action.

SOY AND CATTLE DEFORESTATION TRACKER: DEFORESTATION AND CLEARANCE BY STATE IN BRAZIL

Detected by Mighty Earth and Aidenvironment Rapid Response Program,
March 2019 to November 2020



For data and full methodology see: <https://www.mightyearth.org/soy-and-cattle-tracker/>

Moreover, the Tracker, along with the Rapid Response reports that provide data for it, confirm scientific research and press reports of the devastating deforestation and clearance occurring in the Cerrado and Amazon.⁹

For the past decade, supermarkets and consumer goods companies have made various pledges to reach zero deforestation in their supply chains. These commitments include those made in the New York Declaration on Forests (2014), as well as those under the Consumer Goods Forum (CGF) of 2010. In the 2010 CGF agreement 400 companies aimed to achieve zero 'net' deforestation in their supply chains by 2020. Yet none of these companies achieved this goal.

As the Tracker reveals, wide-spread deforestation and clearance continues, enabled by the traders assessed. Now with improved information on the trader links to large cases of clearance, supermarkets operating under robust deforestation commitments have no excuse but to enforce their policies through engagement and commercial action with the traders involved.

While our Rapid Response program provides a spotlight on select areas of land conversion, the cases that we identified alone (225,000 hectares of clearance) are considerably larger than Greater London and equivalent to a megacity such as Mexico City, Bangkok or Johannesburg.¹⁰

Of the ten companies assessed between March 2019 and November 2020, Cargill, JBS, and Bunge, are associated with the largest amount of deforestation and clearance in their supply chains. Cargill and Bunge are linked to over 61,260 and 38,976 hectares of deforestation respectively, during this period. In contrast, Louis Dreyfus Company,¹¹ one of the better performers, was linked to 3,881 hectares.

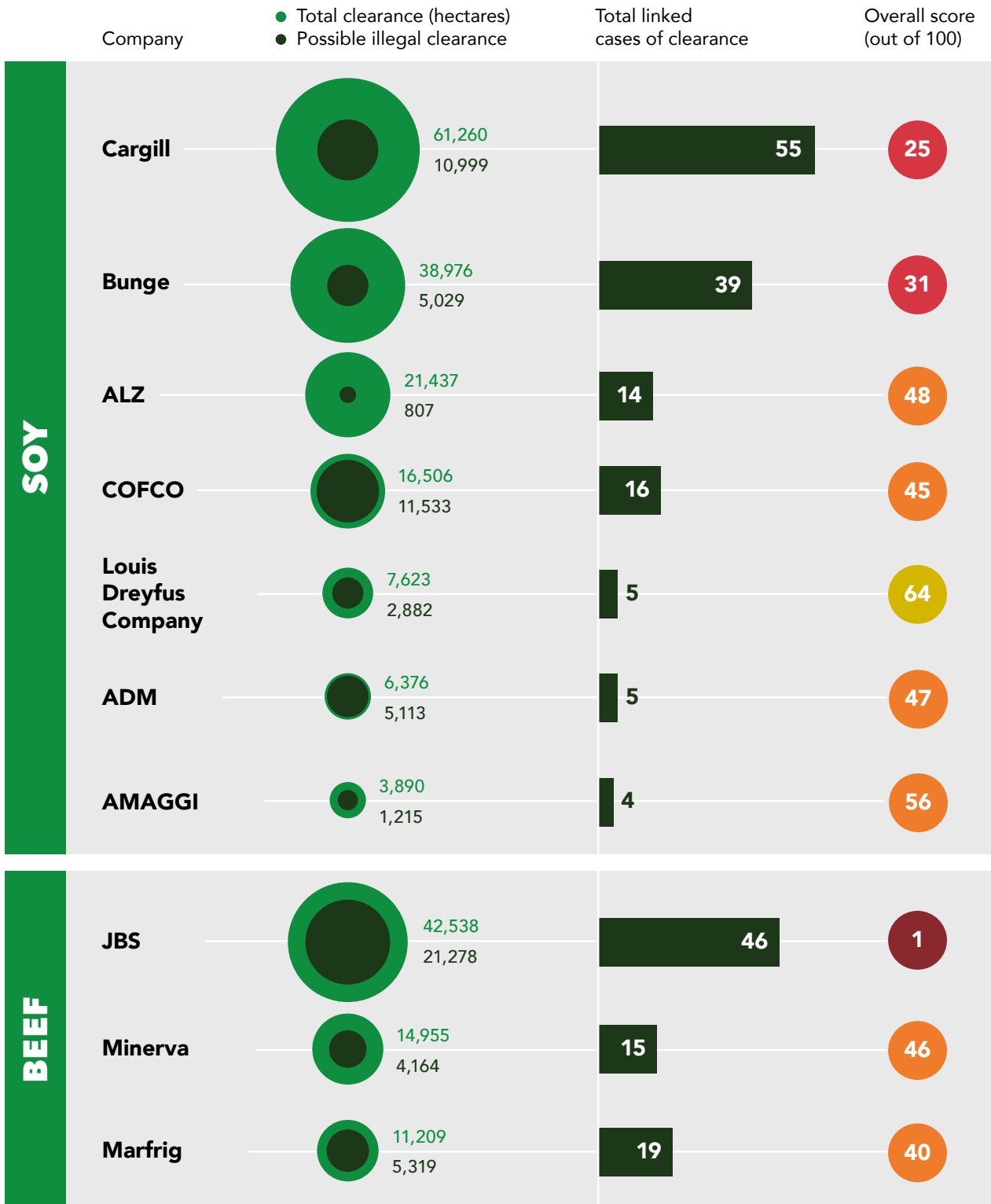
The Tracker includes an overall score out of 100 for each company, indicating the company's general performance in our Rapid Response program.

This score is calculated by weighting companies' performance in six categories:

- total linked Rapid Response cases
- total native vegetation clearance
- total possible illegal clearance
- responsiveness to the Rapid Response reports
- resolution of linked cases
- transparency

The data and overall scores will be updated regularly.

BEEF AND SOY TRADER DEFORESTATION AND CLEARANCE COMPARISON IN THE CERRADO AND AMAZON BIOMES OF BRAZIL*



*March 2019 to November 2020



Note: Companies ordered by total clearance. Data from March 2019 to November 2020 using Mighty Earth Rapid Response reports. Clearance defined as “any land use change classified as loss of native vegetation by deforestation alert systems”. Possibly illegal clearance defined as “any deforestation that is inside a Legal Reserve or Permanent Preservation Area (APP)”. Total cases illustrate an incident of deforestation or clearance flagged to the relevant trader associated with producer, owner or farm. For full methodology and data see: <https://www.mightyearth.org/soy-and-cattle-tracker/>

EUROPEAN AND US SUPERMARKETS: EXPOSED TO THE WORST PERFORMING TRADERS IN MIGHTY EARTH'S TRACKER

For companies that purchase agricultural or forest commodities, traceability and supply chain transparency are essential to understand environmental and human rights risks and for fulfilling ethical supply chain commitments. Traceability and transparency will also be essential to adhere to pending regulation on deforestation in the European Union, United States and United Kingdom.

Supermarkets are not direct buyers of soy from Brazil, and rarely direct buyers of beef. However, they should be able to trace suppliers upstream to determine compliance or non-compliance with no deforestation commitments.

The Accountability Framework Initiative calls on companies to publicly disclose information on its suppliers, supply origins, and the nature and status of any associated non-compliance and grievances. It also recommends that companies should report on the proportion of their supply chain volume that is traceable to specific direct and indirect suppliers at each supply stage.¹²

To better understand the risks posed by deforestation and clearance in soy and beef supply chains, Mighty Earth asked some of the largest supermarkets and food companies in the UK, the Netherlands, Germany, France and the United States to provide information on their links to the traders named in this report. Links could be through their direct sourcing (ie. they purchase from these companies directly) or their indirect sourcing (ie. their suppliers purchase from these companies).

Despite our efforts, only Tesco PLC (UK), Danone and Group Avril (France), and McDonald's (US) disclosed their suppliers or links to the traders named. Tesco, for example, responded with information that Cargill are present as a soy trader within the supply chain of their direct suppliers, as is Bunge. Tesco PLC also confirmed that Tulip and Moy Park are also both in their supply chain (owned by Pilgrim's Pride - a part of JBS USA). They also confirmed that Cargill are part of their poultry supply chain through Avara Foods.

Tesco PLC has also taken initial steps to map its soy supply chain, which is a welcome step towards increased traceability and transparency. Lidl, Aldi Nord, Aldi Süd, Albert

Heijn and Jumbo have also confirmed that they are in the process of mapping their soy supply chain in greater detail.

None of the other companies approached provided information on their links, and many did not respond at all.

SOY MANIFESTO IN FRANCE

The eight largest supermarkets in France, Carrefour, Casino, Auchan, Lidl, Metro, Système U, Mousquetaires, and Leclerc, pledged to include non-deforestation/non-conversion clauses for soy-related products in their contracts with suppliers from January 2021. This initiative could act as a template for retailers in other countries to follow and improve on.

In particular, supermarkets are demanding that their suppliers stop buying soy from land cleared after 2020 in the Cerrado, the main region in Brazil being converted for soy production. There is an aspiration to extend the commitment beyond the Cerrado in the future.

While the French retail sector is taking responsibility for leading on this industry-wide commitment to deforestation-free soy supply chains, other key industry players whose supply chains include soy, such as LDC, Bigard, Groupe Avril, Elior, Sodexo, Burger King, McDonald's, Danone, Lactalis, Sodial, Bel, and Cooperl, are yet to commit. Only a collective push by all echelons of the French soy supply chain would send a crystal-clear signal to soy traders to act responsibly and sustainably.

Supermarkets linked to the worst performers on Mighty Earth's tracker

Despite the lack of transparency in their sourcing arrangements, Mighty Earth research shows the links between supermarkets in the UK, the Netherlands, France, and the United States, with the worst deforesting traders named in our tracker.

The research focuses on soy supply chains in Europe and beef supply chains in the United States due to relative levels of market exposure.

Brazil is a significant exporter of soybeans to the UK, the Netherlands, Germany, and France - with the country exporting some 7.1 million tonnes of soy to these countries in 2018 alone. This soy is then crushed or refined and sold to meat production companies to feed chickens, cows, and pigs. Supermarkets subsequently sell chicken, pork, milk, and cheese to consumers in 'own-brand' products or from well-known meat companies such as Moy Park (in the UK), Le Gaulois and Maitre Coq (in France) or Vion (in the Netherlands).

SOY EXPORTS FROM BRAZIL TO THE EUROPEAN UNION AND THE UNITED STATES

Note: Mighty Earth using TRASE data, exports from Brazil, latest figures 2018. www.trase.earth

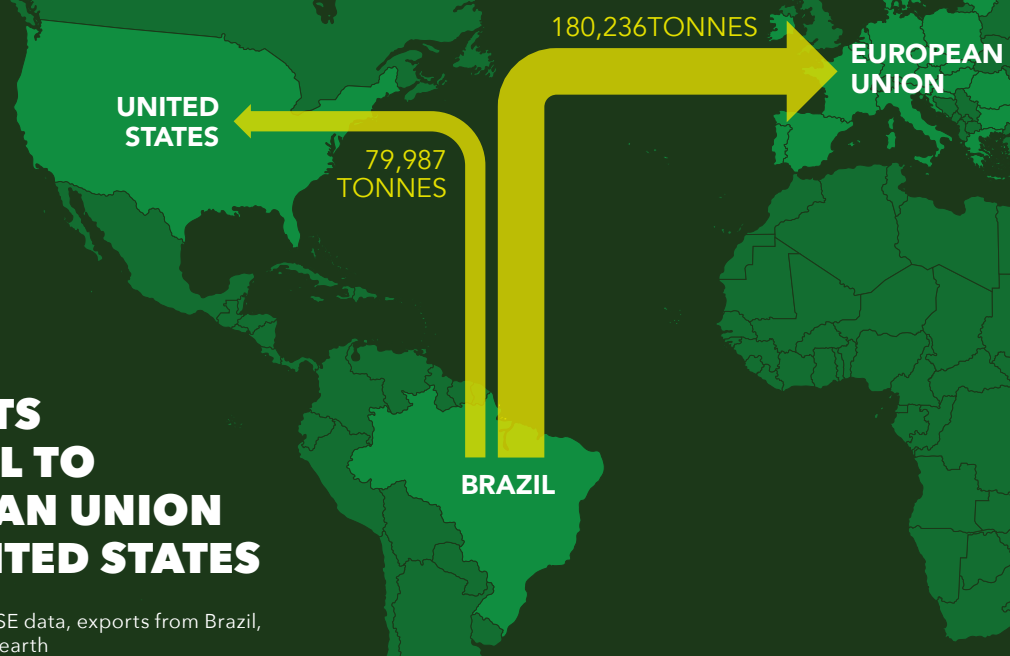


Brazil exported roughly 180,000 tonnes of beef to the European Union and nearly 80,000 tonnes to the United States, according to latest available figures (2017) through companies such as JBS, Marfrig and Minerva. This beef is then sold on by supermarkets as 'luxury' Brazilian beef, or processed beef products such as Hertford corned beef (UK).

US supermarkets exposure to deforestation risk is also set to increase sharply after the US government lifted restrictions on imports of fresh and frozen beef from Brazil in March 2020.¹³

BEEF EXPORTS FROM BRAZIL TO THE EUROPEAN UNION AND THE UNITED STATES

Note: Mighty Earth using TRASE data, exports from Brazil, latest figures 2017. www.trase.earth



Cargill and Bunge - the worst performing soy traders on our tracker

European supermarkets are exposed to the traders assessed in Mighty Earth's Tracker. This exposure is either through direct exports of soy from Brazil, or from Brazil to large ports in countries such as the Netherlands, where soy is processed and re-exported, before finding its way into the meat supply chain. Information on relative exposure per market is available in national datasheets here: <http://mightyearth.org/soy-and-cattle-tracker-briefing-note>

In particular, European supermarkets are critically exposed to deforestation linked to Cargill and Bunge - the two worst performing soy traders in Mighty Earth's Tracker. These two companies were linked to 61,260 and 38,976 hectares of deforestation and clearance respectively from March 2019 to November 2020 in our Rapid Response reports.

Soy exports from Brazil to the UK, Netherlands, Germany and France (market share in tonnes, 2018)

Company	Exports to UK	Exports to Netherlands	Exports to Germany	Exports to France
Cargill	323,227 (70%)	267,510 (7%)	27,906 (2%)	207,245 (13%)
Bunge	10,000 (2%)	310,685 (8%)	397,104 (32%)	612,141 (39%)

Source: TRASE data (www.trase.earth). Note: latest available data 2018 however, 'stickiness' of trade patterns illustrates that while volumes may change market share remains relatively steady over time allowing a reasonable projection to today. See methodology on this issue in the end notes.

- The Netherlands has a highly diversified supply of soy. Cargill and Bunge shipped more than 578,000 tonnes of soybeans to the ports of Rotterdam and Amsterdam in 2018. Mighty Earth's analysis shows that Dutch supermarkets Albert Heijn, Jumbo, Lidl, and ALDI, alongside others, are exposed to Brazilian soybeans from traders such as Cargill and Bunge in their supply chain. TRASE data shows that 61% of direct exports of soy from Brazil to The Netherlands originated from the Cerrado and Amazon biomes - where deforestation risks are highest.
- In the UK, Cargill holds a 70% share of soy exports from Brazil to the UK and has held a dominant position for some time due to its soy crushing facility located in Seaforth, Liverpool. After processing, this soy then enters the meat production supply chain. As a result, the largest UK supermarkets Tesco PLC, J.Sainsbury's, ASDA, Morrisons and ALDI UK are highly exposed to deforestation from Cargill in their stocking of 'own-brand' and 'branded' chicken, pork and dairy products.
- In Germany, the supermarkets EDEKA, REWE, Metro, Lidl, ALDI Süd, and ALDI Nord, amongst others, are exposed to Brazilian soybeans from Cargill and Bunge in their supply chain. TRASE data shows that 57% of direct exports of soy from Brazil to Germany originated from the Cerrado and Amazon biomes - where deforestation risks are highest.

- In France, Bunge and Cargill hold over 50% of the export market from Brazil to France in soy. Our analysis shows that big French food companies Danone, Lactalis, Sodial, LDC, Bigard, Groupe Avril, Bel and Cooperl, all major supermarkets Carrefour, Casino, Auchan, Leclerc, Lidl, Metro, Système U, Mousquetaires and ALDI, food catering providers Elixor, Sodexo and fast-food restaurants Burger King and Quick are exposed to soy from Cargill and Bunge in their supply chain.

JBS - the worst performing meat packer on our tracker

Latest available data shows that JBS, Link Snacks Inc., Minerva, and Marfrig are the top exporters of beef from Brazil to the US since 2018. Our research shows that Walmart, Costco, Kroger, Ahold Delhaize USA, and Publix, all sell JBS products.¹⁴

RECOMMENDATIONS TO SUPERMARKETS

Supermarkets have a critical role to play to clean up the meat supply chain and to drive industry-wide improvements from traders operating in Brazil.

Supermarkets are large volume buyers of beef, chicken, farmed fish, pork and dairy products in Europe and the United States. They have a responsibility to ensure that their supply chain is deforestation-free.

Supermarkets should set strong and publicly available policy commitments on deforestation-free and conversion-free beef and soy; establish accountability mechanisms to ensure that such policies are achieved; engage with suppliers and traders to secure improvements in performance and if this fails enact commercial measures – including sanctions or suspension – for non-compliant suppliers.

The Accountability Framework Initiative represents an authoritative resource for supermarket supply chain managers to understand and mitigate risks in their supply chain as well as provides a list of potential commercial measures.¹⁵

Specifically, supermarket leadership and procurement teams should:

- **Ensure that the company has a strong no-deforestation and no-conversion policy that covers both beef and soy in all sourcing areas.** 79% of all companies assessed by the Forest 500 had no deforestation commitment in beef and 73% had no commitment in soy in 2019.¹⁶ A critical first step is to ensure that policy is in place, with a strong accountability mechanism to ensure delivery.
- **Improve the traceability of the meat supply chain.** Supermarkets should trace suppliers upstream until they can ascertain compliance with no-deforestation and no-conversion policy. They should require traders or suppliers to provide sufficient traceability data to allow for third party monitoring and verification of zero deforestation and zero conversion production practices.
- **Insert clauses into the contracts of meat suppliers to specify deforestation-free conditionality.** These clauses should apply to all sourcing areas – rather than just the Amazon.

- Use an **escalation approach of engagement, retention, suspension and then exclusion** for non-compliant suppliers and traders as recommended by the Accountability Framework Initiative. This approach should include immediate suspension for cases of repeated non-compliance. Specifically, engagement should encourage soy traders and meatpackers to take action to resolve cases of conversion detected by the Tracker.
- **Barring significant improvement in the scores of the worst-performing traders in Mighty Earth's tracker**, supermarket sourcing managers should consider shifting group sourcing preferences for their suppliers away from the traders performing most poorly (currently JBS, Cargill and Bunge), towards better-performing traders (currently Louis Dreyfus Company, Archer Daniels Midland, and AMAGGI) in our Tracker until improvements are made.

Endnotes

- 1 See Consumer Goods Forum Declaration on Deforestation (2010), and UN Declaration on Forests (2014)
- 2 The Guardian (UK), "Amazon deforestation surges to 12-year high under Bolsonaro", *The Guardian (UK)*, Monday 30th November.
- 3 Data using Demographia World Urban Areas (2015). 2,250 square kilometres cleared. Bangkok 2,590 square km, Mexico City 2,072 sq km, Johannesburg, 2,590 sq km, London 1,738 sq km.
- 4 Note that no company scores more than 66/100 in our assessment.
- 5 For a full methodology and explanation of how cases are selected, please See <https://www.mightyearth.org/soy-and-cattle-tracker/>. Note that ALZ is a joint venture between AMAGGI and Louis Dreyfus Company.
- 6 Note that TRASE data uses most recently available trade data for soy and beef exports from Brazil. This constitutes data from 2018 for soy and 2017 for beef. However, trade data and interviews with experts indicates a level of 'stickiness' in export and import market share due to fixed infrastructure in Brazil and key importing countries. This means that while overall volumes may change from traders in their exports from Brazil, the relative market shares are unlikely to shift by significant amounts. This allows for assumptions in trade data beyond 2018 to today. (www.trase.earth)
- 7 See TRASE (www.trase.earth). Latest available data 2017.
- 8 TRASE Insights, 'Lifting of Import Ban Increases Deforestation Risk', 2nd July, 2020. Available here: <https://insights.trase.earth/insights/us-deforestation-risk>
- 9 Over the past decade, scientists estimate that some 38,600 square km of land has been cleared in the Amazon - which is larger than the entire land area of a country such as the Netherlands. Royal Statistical Society (2019), "International Statistic of the Decade", 23.12.19. For land clearance in the Cerrado, see WWF, "Cerrado Loses an Area the Size of London every 3 months", 11th December, 2019.
- 10 Demographia World Urban Areas (2015), op.cit.
- 11 For methodology that outlines how linkages are made to particular traders, see <https://www.mightyearth.org/soy-and-cattle-tracker/>
- 12 Accountability Framework Initiative: <https://accountability-framework.org/>
- 13 See TRASE Insights (2020), op. cit
- 14 Research using desk research for products and Panjiva. (2020). US Imports - Shipment Records 12/06/2019-12/06/2020. Suppliers, Brazil: beef. United States Customs & Border Protection (CBP). Retrieved December 16, 2020, from <https://panjiva.com/platform>.
- 15 Further detail on appropriate commercial penalties for non-compliance from suppliers can be found here: https://s30882.pcdn.co/wp-content/uploads/2020/09/OG_Supply_Chain_Management-2020-5.pdf
- 16 Forest 500, this includes but is not limited to supermarkets. See: https://forest500.org/sites/default/files/forest500_annualreport2019_final_0.pdf

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