European Soy Monitor

Trends and developments in sustainable soy production and consumption between 2019 and 2023

Prepared by Schuttelaar & Partners. Commissioned by Donau Soja, FEDIOL, FEFAC, IDH, IUCN NL, ProTerra Foundation and RTRS.

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Important Notice on Contents – Estimations and Reporting

All information in this report is derived from, or estimated, using both proprietary and publicly available information. Where information has been obtained from third-party and/or proprietary sources, it is referenced. FEFAC cannot guarantee the accuracy of data provided by the feed associations. Please view the European Soy Monitor 2020 for detailed methodology and notes on the data limitations and challenges, as the methodology remains the same.

Disclaimer: This report does not provide insights into compliance with the European Regulation on Deforestation-Free Products (EUDR). In 2022 and 2023, the details about EUDR were not in place and soy actors had not yet prepared for EUDR compliance. The report indicates which countries and sectors have invested in sustainable soy via sustainability certification or landscape initiatives. This will likely indicate to what extent sustainability risks are known and the extent to which sustainable soy is prioritized. However, the report does not indicate how well prepared countries, or sectors are for EUDR compliance.

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Preface

Dear reader,
Welcome to the sixth edition of the European Soy Monitor (ESM). Soy remains a critical input for the livestock sector in Europe but remains globally one of the commodities most associated with deforestation and conversion of natural vegetation. As in previous years, the ESM reports on the use of FEFAC soy sourcing guidelines (FEFAC SSG) compliant soy and the relevant developments in sustainable soy production and consumption. For the first time, attention is given to trend analysis across the full 5 years of data gathered by the ESM. This allows greater insights into the progress being made by European companies to source deforestation- and conversion-free soy, and into the challenges that remain.

We present analyses of the European market as a whole (the EU 27+), that of individual countries, and of the trends in each of the FEFAC SSG compliant schemes. To put the sourcing of FEFAC SSG compliant soy in context, deforestation and conversion in the three main South American soy producing biomes, the Amazon, Cerrado and Gran Chaco, is quantified.

This edition of the ESM is published at a moment of significant uncertainty that will almost certainly bring changes to soy supply chains. The implementation of the European Union Deforestation Regulation (EUDR) is imminent, and importers of soy to the EU will have to begin formal due diligence processes on deforestation to comply with that law from 30th December 2025. Meanwhile, analogous secondary legislation in the UK still has to pass through Parliament before we know its full requirements. The Amazon Soy Moratorium - an agreement supported by traders, the Brazilian Government and NGOs that has been influential in diminishing soy-related deforestation in the Brazilian Amazon – may cease to exist in the near future. Meanwhile the war in Ukraine – a significant soy producer for the European market – continues, and the tariffs imposed by the U.S. Government on its trading partners, and other country's responses to those tariffs, seem likely to further affect the configuration of global soy supply chains. Climate change, and the increasing severe weather events that it causes, will be a growing challenge to security of supply and the livelihoods of soy farmers.

This year, to complement the data on uptake of certified material, we also devote a chapter to a complementary approach to soy sustainability – landscape approaches. Although a relatively recent development, landscape approaches aim to find local, collaborative solutions to a range of issues within production landscapes. With a focus on the local, they vary in their stated goals, but hold the promise of potentially making the bulk purchase of and finance for sustainable soy more straightforward.

The combined focus on certification and landscape approaches seems apt given the challenges and uncertainties that lie ahead. The likelihood is that the best way to overcome these challenges is through a combination of voluntary actions and regulation, and that collective action will become more important than ever to guarantee the sustainable production, trade, and use of soy. We hope this report inspires you on your journey towards joint action.

On behalf of Donau Soja, FEDIOL, FEFAC, IDH, IUCN NL, ProTerra Foundation, and RTRS

Executive summary

The EU27+ is the second-largest importer of soybeans after China, and the largest importer of soybean meal. Its own soybean production remains modest. This means that the food system in Europe, and in particular livestock sectors including for example, pork and chicken production, are heavily dependent on imports. Various initiatives such as certification schemes and landscape initiatives approaches, have been developed over many years to reduce the sustainability risks associated with the soy supply. A combination of interventions remains needed to secure sustainable production and protect vital biomes.

Global soy production reached 371 million tonnes in 2023, up from 336 million tonnes in 2019—an increase of 10% over five years. This growth, largely driven by rising demand for animal feed, has been accompanied by a 12% expansion in harvested area. Despite a global average yield of 2.75 tonnes per hectare, major producers such as Brazil and the United States consistently outperform this figure, indicating significant untapped yield potential in other regions. However, increased expansion of the area farmed for soy continues to exert pressure on vulnerable ecosystems, particularly in high-risk biomes such as the Cerrado, the Amazon, and the Gran Chaco.

Between 2019 and 2022, soy production in the Cerrado increased by 20%, leading to significant conversion of natural ecosystems. In 2022, the Cerrado produced 44% of Brazil's soy, with high rates of land clearance, especially in Maranhão, Tocantins, Piauí, and Bahia, jointly referred to as MATOPIBA. In the Amazon rainforest, deforestation rates rose sharply by 59% during Jair Bolsonaro's presidency (2019-2022) due to reduced enforcement budgets. However, deforestation decreased again under President Luiz Inácio Lula da Silva, who reinstated monitoring programs and strengthened enforcement against illegal logging. The Gran Chaco, spanning Bolivia, Argentina, and Paraguay, lost nearly 10 million hectares of natural wooded vegetation and herbaceous vegetation between 2004 and 2023, reflecting a 10% reduction of natural wooded vegetation. Across soy growing regions, weak enforcement and growing demand continue to drive the conversion of natural vegetation.

Efforts to source soy more sustainably have been increasingly adopted throughout the EU27+. The uptake of soy meeting the FEFAC Soy Sourcing Guidelines increased from 42% in 2019 to 54% in 2023. This reflects a growing commitment to responsible sourcing among European market actors. At the country level, uptake has remained relatively stable over time, with key shifts driven by improved registration of SSAP-certified soy (U.S. soy) through export certificates. This has led to a notable increase in physical supply chain uptake in southern European countries. In contrast, countries that have long relied on credit-based systems (such as book & claim models) have largely maintained this approach, with limited movement toward sourcing through the physical chain. These differences underline the need for continued alignment and coordination across markets to achieve consistent and verifiable progress.

Based on available data, there has been a notable increase in volumes under the FEFAC SSG schemes. Between 2019 and 2023, the total global volume of certified soy grew by 67%, with a 22% increase specifically within the EU27+ market. The report explores the factors contributing to this trend. It is increasingly acknowledged that sector-wide challenges such as deforestation, biodiversity loss, and water depletion require action at a broader, aggregated level. Landscape and jurisdictional approaches have emerged as promising models to address these systemic issues. These approaches unite diverse stakeholders including governments, producers, companies, and civil society around shared sustainability goals across entire biomes, jurisdictions, or sourcing areas. They offer opportunities to streamline sustainable procurement, support farmers through collective access to finance and knowledge, and develop more coherent and inclusive strategies than can be achieved at the individual farm level.

Early experiences in soy-producing regions in Brazil highlight critical success factors: strong government participation, multistakeholder involvement from the outset, local alignment with broader policy goals, and sufficient facilitation capacity. While measurable impacts remain difficult to attribute directly and the relatively early stage of many initiatives, early signs suggest that progress on issues, such as land registration and production increases, is being made. Greater data transparency, such as annual reporting from initiatives like PCI in Mato Grosso, will be essential to track progress and unlock long-term private sector support.

To halt deforestation and conversion, a combination of interventions is needed: robust enforcement of laws, strong public and private commitments backed up by timebound action plans and public reporting, continued uptake of credible sustainability standards, and investment in landscape-level approaches that balance agricultural productivity with ecosystem preservation. Industry, governments, and civil society must join forces to deliver coordinated action at scale, urgently and collectively, to protect vital biomes and secure a sustainable future for the global soy sector.

Definitions

Book & Claim
This supply chain model is also called credit trading or certificate trading. It is a model where the certified material is completely decoupled from the sustainability data. Sustainability certificates or credits are issued at the beginning of the supply chain by an independent issuing body and can be bought by market participants, usually via a certificate or credit trading platform[1].

Clean supplier approach
The clean supplier – or clean supplier chain – approach has been established across deforestation- and conversion-risk commodities in recent years and is included as one of the six instruments in the CSI Magic Cube. It is an approach in which trading companies make sure all supply is deforestation and conversion-free, and not just the compliant volumes for specific markets. The objective is to have traders deliver conversion-free soy from whatever region to whichever end market.

Credits
See Book & Claim

Collaborative Soy Initiative (CSI)
The Collaborative Soy Initiative (CSI) is a voluntary cooperation between international players in the soy sector. In 2021, CSI and Proforest developed the Magic Cube which includes 6 complementary instruments for responsible soy[2].

Compacts
Compacts (also PPI compacts) refer to the landscape-level agreements between public, private, and civil society stakeholders to make land more productive and improve livel hoods, in exchange for the protection of natural resources, most notably forests.

Cutoff date
Related to no-deforestation and no-conversion commitments: The date after which deforestation or conversion renders a given area or production unit non-compliant with no-deforestation or no-conversion commitments, respectively.

Deforestation and conversion-free (DCF) soy
Soy that is produced without converting natural ecosystems such as forests, wetlands, savannas, peatland, and high carbon stock land into agricultural acres. In this report, we refer to the Profundo benchmark (2019) to calculate DCF soy. A new Profundo benchmark was published in 2023, which acknowledges that more FEFAC SSG compliant standards adopted deforestation and conversion-free requirements.

EU27+
EU27+ refers to the European Union (27 member states) plus Norway, Switzerland, and the United Kingdom.

Environmental Act 2021
The Environment Act is a law in the United Kingdom aimed at protecting and enhancing the environment in the country. Through the Act, different topics are addressed, such as air quality, biodiversity, waste, and resource efficiency. In addition, the Act facilitates legislation aimed at cleaning the country's supply chains.

EU Deforestation Regulation (EUDR)
In November 2021, the European Commission proposed a regulation to address deforestation and forest degradation (the EUDR). A provisional agreement was reached between the European Council and the Parliament in December 2022, and the regulation entered into force in June 2023. The Regulation aims to halt the bringing to the market of, and export from the European Union, of seven commodities, including soy, where they are linked to deforestation or illegal production practices. The rules begin to apply for medium & large operators and traders from 30 December 2025, and from 30 June 2026 for micro and small enterprises.

EU Corporate Sustainability Due Diligence Directive (CSDDD)
The CSDDD entered into force in July 2025. With this Directive, companies in scope are obliged to execute human and environmental due diligence throughout their own operations and supply chains. At the moment of writing, the scope and content are part of the EU Omnibus Sustainability Package. Definitive adjusted text may be expected later in 2025/2026.

Embedded soy
Embedded soy is the 'hidden soy' that is used in the production of goods that are not themselves soy. Most notably, soy fed to animals is embedded within animal-based protein such as meat, eggs, and dairy. When European countries import such products, they also 'implicitly' import the soy that was used to feed the animals.

FEFAC Soy Sourcing Guidelines
The European Feed Manufacturers' Federation Soy Sourcing Guidelines (FEFAC SSG) were developed in 2015 to provide market transparency for the production and sourcing of responsible soy. Updated in 2021 and 2023, the FEFAC SSG now also include criteria for conversion-free soy.

FEFAC SSG compliant soy
Soy that is certified under one of the standards that are positively benchmarked against the 2021 FEFAC Soy Sourcing Guidelines.

Definitions

Note that a new version of the Guidelines is available (2023 FEFAC Soy Sourcing Guidelines), however the (re-) benchmarking is ongoing.

Forest
Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10%, or trees able to reach these thresholds in situ. Forests include natural forests and tree plantations. This definition is used by the FAO, the Accountability Framework initiative and by the EUDR.

Forest Code (Brazil)
In 1965, Brazil passed its first Forest Code, requiring landowners to retain 35%-80% of their land covered by native vegetation, depending on the biome. Furthermore, each landholding must include Areas of Permanent Protection (APPs) where natural vegetation must be retained to protect water bodies, steep slopes, marshes. In 2010, the government introduced CAR (Cadastro Ambiental Rural) to register and map all rural properties.

Forest Risk Commodities Regulation
Adopted in December 2023, the Forest Risk Commodities (FRC) regulation establishes a legal framework to address illegal deforestation in British supply chains. The provisions are set out in the UK Environmental Act 2021. The FRC regime aims to tackle deforestation by making it illegal for larger businesses operating in the UK to use key forest risk commodities produced on land illegally occupied or used, with in-scope businesses required to undertake due diligence and report on this exercise annually. The regulation still requires secondary legislation to become operational. Although this was initially expected in early 2024, the process has been delayed due to the general election, leaving the timeline uncertain.[3]

Jurisdictional approach
Jurisdictional approaches are a type of landscape approach in which the landscape is defined by political boundaries that are usually at the local government level, targets are set that promote sustainable practices within the jurisdiction, and in which there is strong subnational government leadership (CDP, 2021).

Landscape approach
A landscape approach is defined as a multistakeholder process in a defined natural or social geography in which diverse stakeholders jointly determine sustainable development targets for that landscape and implement a system of action and monitoring.

Landscape initiative
A landscape initiative is the practical implementation of a landscape approach, in which stakeholders formalize the landscape approach in a landscape initiative.

Monitoring, Reporting and Verification (MRV) system
A concept originally used in the climate sphere, to measure and monitor greenhouse gas emissions, is now used differently linked to deforestation and conversion-free soy. Monitoring, Reporting, and Verification (MRV) systems refer to a stepwise approach to monitoring conversion-free commodities and implementing accompanying due diligence processes within the company to ensure conversion-free commodities are supplied to all customers.

PPI/PCI approach
The PPI approach stands for Produce, Protect, Include and refers to the three dimensions for which development targets are developed in a landscape approach. Instead of Protection, it is also sometimes referred to Conservation, making it the PCI approach.

RTRS credits
As per the RTRS Credit system definition, it refers to those granted for the certification of soybean production in a responsible manner, as audited and verified by Certification Bodies accredited, at the establishment level, based on economic, social, and environmental criteria. One ton of certified soybeans equals 1 RTRS Credit. When RTRS Credit is adopted, it is decoupled from the physical soy volumes.

Soybean meal available for domestic consumption
The reference volume for the calculation of FEFAC-compliant and DCF soy. The available soybean meal for domestic consumption is calculated by summing all soy imports and domestic soy production, subtracting soy exports, and adding the net import or export of embedded soy.

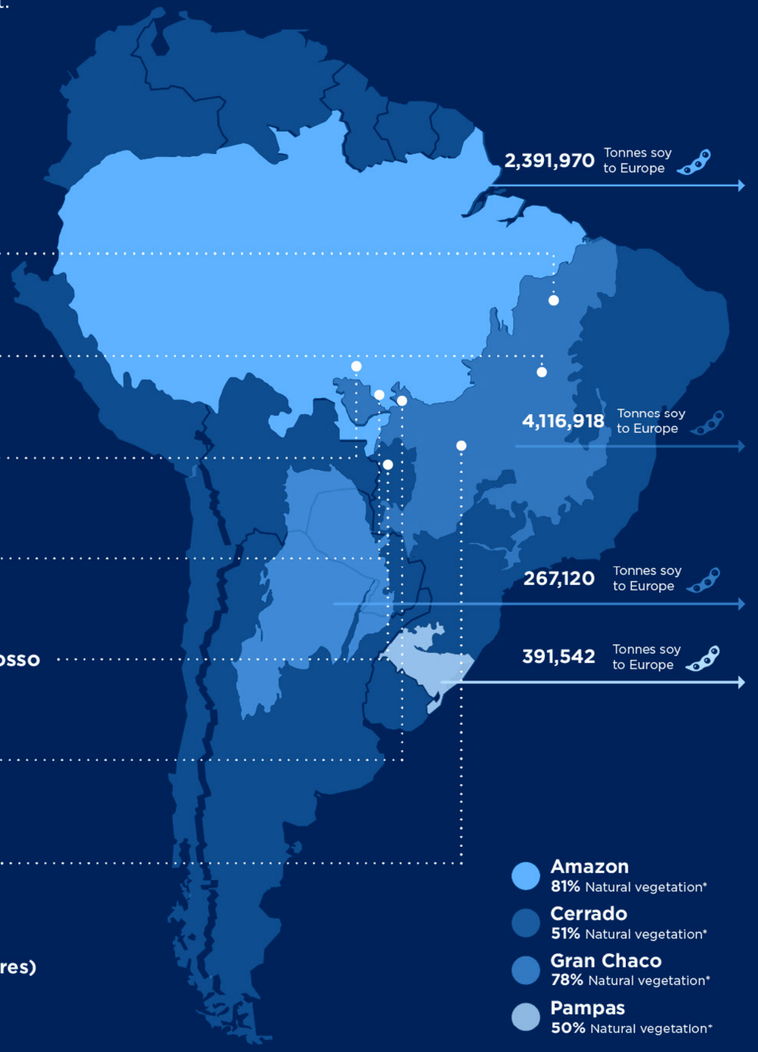
Transparency tool
Created in 2021, along with the new version of the Soy Sourcing Guidelines, FEFAC's Transparency Tool allows companies to identify credible soy standards that offer certified conversion-free soy. In the Transparency Tool, all but one FEFAC SSG compliant standards are considered to offer deforestation and conversion-free soy[4].

Acronyms

ABIOVE	Brazilian Association of Vegetable Oil Industries
ASC	Aquaculture Stewardship Council
CRS	Certified Responsible Soya (standard from Cefetra)
CSDDD	Corporate Sustainability Due Diligence Directive
CSI	Collaborative Soy Initiative
CSRD	Corporate Sustainability Reporting Directive
EU27+	EU countries + Norway, United Kingdom and Switzerland
EUDR	EU Deforestation Regulation
FEDIOL	The European Vegetable Oil and Protein meal Industry
FEFAC	The European Feed Manufacturers' Federation
INPE	National Institute for Space Research in Brazil
ISCC	International Sustainability and Carbon Certification
ISEAL	International Social and Environmental Accreditation and Labelling
MRV	Monitoring, Reporting and Verification system
PCI	Produce, Conserve, Include
PPI	Produce, Protect, Include
RTRS	Round Table on Responsible Soy
SFAP	Sustainable Farming Assurance Program
SSAP	Sustainable Soybean Assurance Protocol
SSG	Soy Sourcing Guidelines

Landscape initiatives with a soy component

The map shows the main biomes in South America and indicates the landscapes with a soy component.



Balsas Region - Maranhão
5,206,282 | 3,677,606

Tocantins
93,200 | 29,800

Mato Grosso - Juruena Valley
1,267,780 | 879,248

Mato Grosso
90,320,705 | 49,017,322

Mato Grosso – Western Mato Grosso
5,144,780 | 1,500,000

Mato Grosso - Sorriso
934,755 | 287,000

Mato Grosso - Barra do Garças
836,314 | 472,351

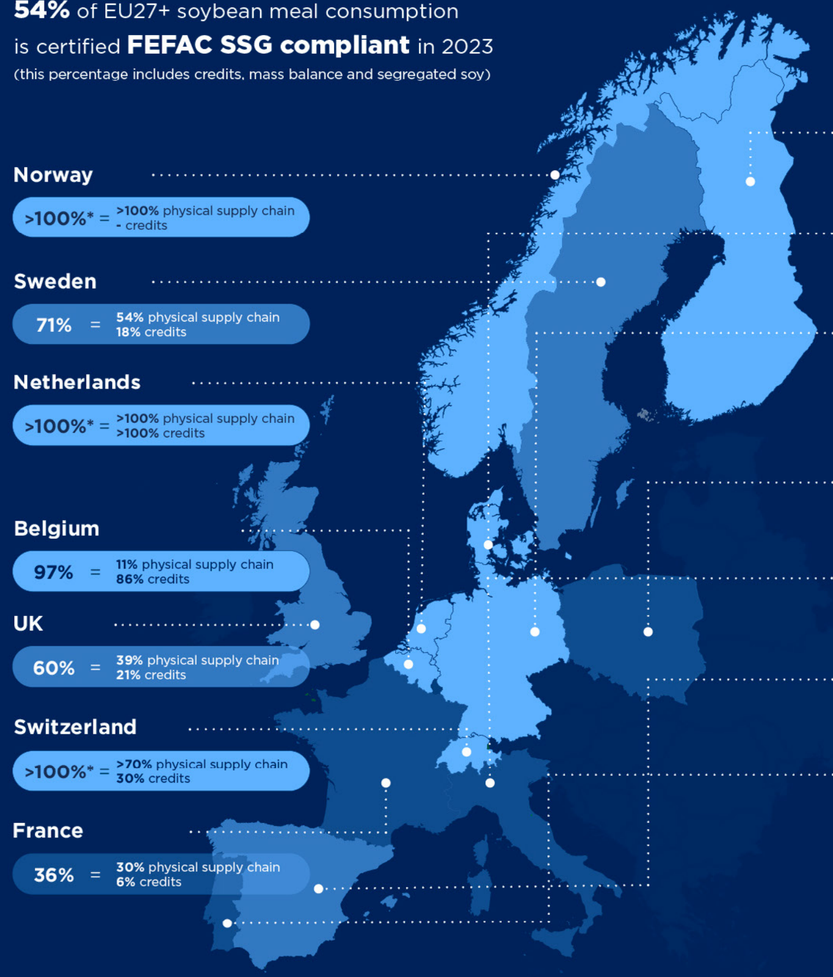
Total area in initiative (in hectares)

Forest cover (in hectares)

Data: initiatives from SourceUp and trade flows from Trase (volume in tonnes, Brazil 2022, Argentina 2019)
*Based on MapBiomas

European consumption of FEFAC SSG compliant responsible and deforestation-free soy in 2023

54% of EU27+ soybean meal consumption is certified **FEFAC SSG compliant** in 2023
(this percentage includes credits, mass balance and segregated soy)



Norway
>100%* = >100% physical supply chain - credits

Sweden
71% = 54% physical supply chain 18% credits

Netherlands
>100%* = >100% physical supply chain >100% credits

Belgium
97% = 11% physical supply chain 86% credits

UK
60% = 39% physical supply chain 21% credits

Switzerland
>100%* = >70% physical supply chain 30% credits

France
36% = 30% physical supply chain 6% credits

Finland
89% = -% physical supply chain 50% credits

Denmark
>100%* = 4% physical supply chain >100% credits

Germany
100% = 77% physical supply chain 23% credits

Poland
- = - physical supply chain - credits

Italy
12% = 9% physical supply chain 3% credits

Spain
72% = 70% physical supply chain 2% credits

Portugal
25% = 25% physical supply chain - credits

% FEFAC SSG compliant

For the method used to calculate the percentages, we refer to page x of this report. In addition, the individual country chapters shed more light on the results.
*For some countries more than 100% of the national soybean meal availability for domestic consumption is FEFAC SSG compliant. See Chapter 3 for an explanation.

1 Trends and developments in the soy sector

Global demand for soybeans is rising. Production areas are expanding, especially in Brazil, the U.S., and Argentina. In regions like the Brazilian Cerrado and Argentinian Chaco, this growth often threatens natural ecosystems. Sustainability initiatives aim to reward farmers for responsible farming and conservation efforts.

1.1 World soy production

Global soy production reached about 371 million tonnes in 2023, compared to 336 million tonnes in 2019. This is an increase of 10% over 5 years, and reflects the long-term trend of growth in demand, driven largely by an increased demand for animal feed. Figure 1 shows fluctuations in annual global soy production, caused in the main by extreme weather events in the main producing countries of the United States, Brazil, and Argentina. Figure 2 shows the total harvested area for soy production worldwide. The figure shows a steady increase in the area used for soy production, increasing by 12% over the period 2019-2023.

The worldwide average soybean yield peaked at 2.85 tonnes per hectare in 2021, as seen in Figure 3. Yield varies strongly between countries and between regions in a country[5]. For instance, the main soy-producing countries, the United States and Brazil, have significantly higher yields. Between 2019 and 2023, the United States had an average yield of 3.37[6] tonnes per hectare, and Brazil of 3.41[6] . Outliers reaching 4 tons per hectare are not unusual. In contrast, the global average yield during the same time was 2.75 tonnes per hectare.

The difference between the potential yields and actual yields, the yield gap, suggests that many producing countries have a substantial untapped potential to increase production without expanding the area of land used for soy production.

Figure 4 shows the main soy-producing countries from 2019 to 2023. Brazil, the United States, and Argentina continue to be the main soy-producing countries. Together, these three countries produced 78% of the world's soy in 2023.

The 2017/2018 harvest was the first in which Brazil surpassed the United States in soybean production, and it has remained that way ever since. Over the five years from 2019 to 2023, Brazilian production rose sharply from around 114 million tonnes in 2019 to over 152 million tonnes in 2023. The rise of production in this period can be attributed to an expansion of the harvested area and an increase in the productivity per hectare[8]. The adoption of technology, including genetically engineered seeds, chemicals, and fertilizers, has resulted in increased yields[9]. The harvested area grew from 35 million hectares in 2019 to 44 million hectares in 2023. Figure 4 shows a notable dip in production in 2022, which is due to severe droughts caused by the weather phenomenon La Niña impacting soy production in the South of Brazil[10]. In 2023, Brazil accounted for approximately 39% of total global soybean production.

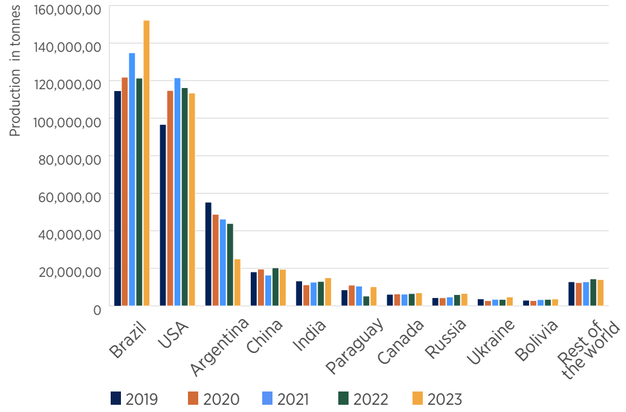


Figure 4 Global production of soybeans 2019-2023, by major producing nations (data from FAO-STAT)

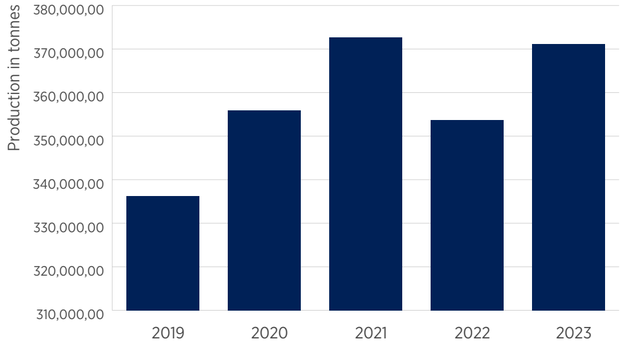


Figure 1 Global soy production 2019-2023, in tonnes (data from FAO)

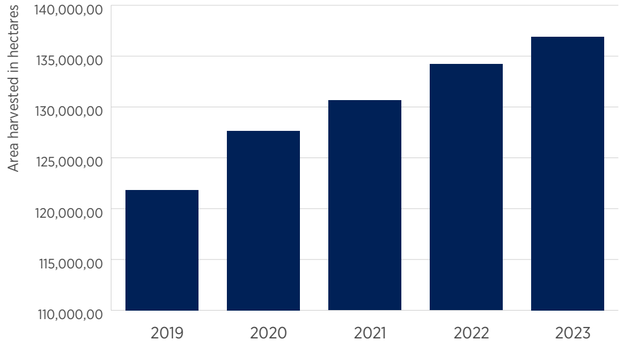


Figure 2 Global area of soy harvested 2019-2023, in hectares (data from FAO)

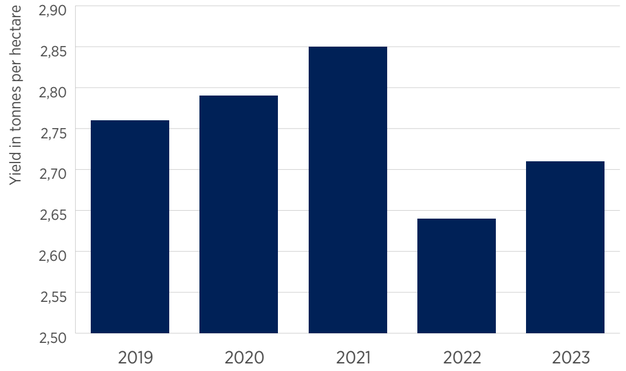


Figure 3 Soy yield in tonnes per hectare in 2019-2023 (own calculations, based on data from Figure 1 & 2 from FAO)

The United States remains the second largest producer over the period 2019-2023. In 2019, excessive rainfall prevented soy planting on many hectares. In addition, wet conditions during harvest led to a loss of yield. In 2020, the Trump administration signed an agreement with China on trade and investment. The positive outlook among farmers due to the trade deal led to the anticipation of extensive planting in 2020[11]. Between 2019 and 2020, the area harvested increased from 30 million hectares to 33 million hectares (FAOSTAT). In 2022, a drought impacted soy production in the U.S.[12].

Argentina is the third largest soy-producing country, and it exports mostly soybean meal instead of whole soybeans. Government policies, including lower export taxes on meal, compared to raw beans, encourage local processing. Over the 2019-2023 period, a gradual decline in hectares harvested and soy production can be observed in Argentina. Due to economic reasons, such as the export tax on soy, unfavorable exchange rates, and environmental drivers, including soil erosion and a build up of pests and diseases, farmers are moving away from soy monocultures towards the cultivation of wheat and corn. This crop diversification aims to make farmers more resilient against extreme weather conditions and combats soil degradation[13]. The steep decline of 43% (FOASTAT) in soy production in 2022/2023[14] can be attributed to the droughts caused by La Niña.

The EU27+ is included in the 'rest of the world' and shows a consistent but modest growth in soy production. Various countries in the European Union have implemented a protein strategy, stimulating the production of protein-rich crops. Ukraine is an important soy producer on the European continent, accounting for 4.75 million tonnes in 2023[15]. Chapter 2 elaborates on EU27+ soy production. The following sections highlight the main biomes in which soy production and soy expansion take place.

1.1.1 Cerrado

The Cerrado is considered one of the most important savanna ecosystems globally, characterized by a mix of grasslands, shrublands, woodlands, and ecologically significant microhabitats. It supports a highly diverse and distinctive flora and fauna, with notable regional variation. The region is also critical for Brazil's freshwater resources, as many of the country's major rivers originate in the Cerrado highlands and plateaus. In recent decades, the biome has experienced extensive agricultural expansion and population growth, increasing pressure on land and water[16].

In 2022, the Cerrado produced 44% of the entire soy volume traded from Brazil. The production of soy in the Cerrado shows an increase of 20% between 2019 and 2022, as can be seen in Figure 5.

The expansion of soy cultivation in the Cerrado is accompanied by the conversion of natural ecosystems. Conversion of the Cerrado biome continues at relatively high rates (Figure 6), higher than in other Brazilian biomes[17], particularly in Maranhão, Tocantins, Piauí, and Bahia (collectively referred to as Matopiba).

The reasons for soy expansion in the Cerrado are manifold. The conditions for soy production are favorable: there is sufficient land and water, transport and storage infrastructure is in place, and there is access to finance for prefinancing the harvest and preparing land for soy cultivation. Land is cheaper than in the traditional agricultural hubs of the South-Central region of Brazil and the landscape has a predominantly flat topography, which allows for mechanized farming. Landowners in the Cerrado are legally permitted to clear between 65% and 80% of their land when they have acquired the appropriate environmental licenses[18].

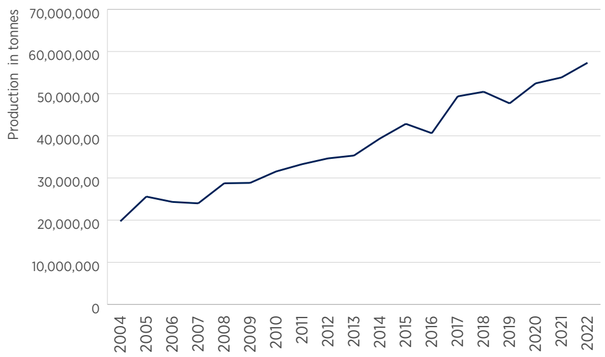


Figure 5 Soy production in the Cerrado in tonnes 2004-2022 (data from Trase)

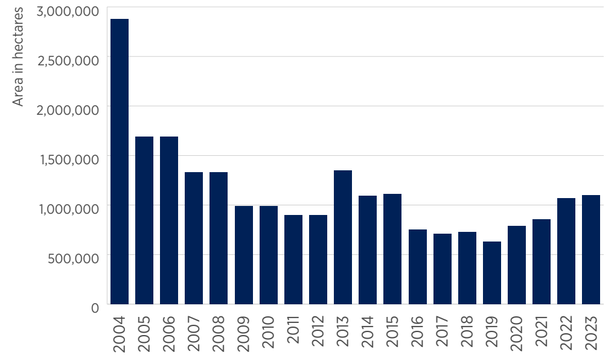


Figure 6 Conversion of natural vegetation in the Cerrado 2004-2022 (data from PRODES[19])

1.1.2 Amazon

The Amazon rainforest is the largest tropical rainforest on Earth. It spans over 6.7 million square kilometers, which is twice the size of India. The Amazon basin spans eight countries: Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, and French Guiana. The Amazon forest plays a vital role in stabilizing the climate at local, regional, and global levels. The forest is home to an extraordinary diversity of plant and animal species[20]. Whilst historically it has acted as a carbon sink, helping to absorb carbon dioxide from the atmosphere, it is increasingly emitting more carbon than it absorbs, and this change could become permanent unless deforestation is halted and reversed. The Amazon forest is under severe threat due to deforestation, climate change, and increasing forest fires, pushing it dangerously close to a tipping point, beyond which permanent ecosystem loss may occur.

Around 60% of the Amazon biome is in Brazil. The principal causes of deforestation in the Amazon now include cattle ranching, illegal logging, deforestation for mining practices, infrastructural projects, and forest fires[21]. Approximately 15% of Brazil's soy is produced in areas within the Amazon biome. This is usually on converted cattle pasture around 5 to 20 years after the initial clearance. Deforestation and conversion of natural vegetation in the broader sense, for agricultural use is focused in the so-called 'Arc of Deforestation', a zone along the southern and eastern edges of the Amazon, spanning states like Mato Grosso, Pará, Rondônia, Maranhão, and Acre, where agricultural expansion and land clearing are most intense. Figure 7 shows the soy production in the Amazon over the period 2004-2022. While a drop of production can be observed from 2018, the overall increase between 2004 and 2022 is almost 679%.

The monitoring of conversion of natural vegetations in the Brazilian Amazon is well established. These monitoring systems focus on the so-called 'Legal Amazon'. The Legal Amazon is a jurisdictional entity that includes the states Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins, Mato Grosso, and Maranhão. Note that the Legal Amazon includes areas of other biomes, such as the Cerrado and Pantanal, whereas the Amazon biome covers rainforest only.

Figure 8 shows the conversion rates in the legal Amazon. The high rates of conversion have raised concerns within the international community. In 2006, soy traders, NGOs, and local government came together and jointly agreed on the Amazon Soy Moratorium. The traders agreed not to source from farmers in the Amazon rainforest who converted their lands after 2008. The 2008 cut-off date aligns with the Brazilian Forest Code.

Figure 8 shows that conversion dropped significantly in the year after the Amazon Soy Moratorium was instigated, and research suggests that the Moratorium was one of the reasons for the reduction in the conversion of natural vegetation in the Amazon[23]. To put the decrease in context, it is estimated that the reduction in conversion in 2004-2012 constituted the largest national carbon emissions reduction the world has ever seen, more than three times the savings from the UK switch from coal to renewables in its electricity sector, which is the second biggest.

However, conversion of the Amazon never completely halted, and soy production continues to play a role. The annual Amazon Soy Moratorium report shows that soy production, referred to as 'soy not in line with the Soy Moratorium'[24] continues. The figures are listed in Table 1, and they are cumulative (soy that was not in line with the ASM continues to be not in line in the next years), and in 2022/2023, the 0,25 million hectares cleared corresponded to 0,06% of the total area of the Amazon biome.

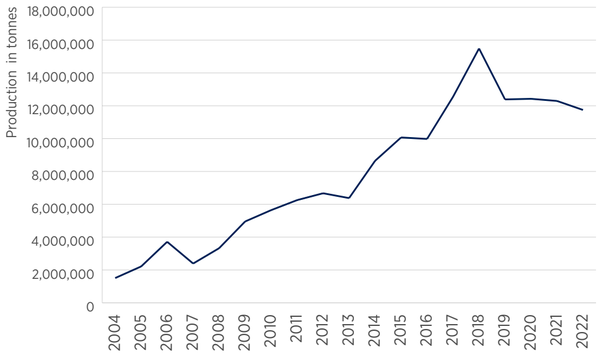


Figure 7 Soy production in the Amazon 2004-2022 in tonnes (data from Trase)

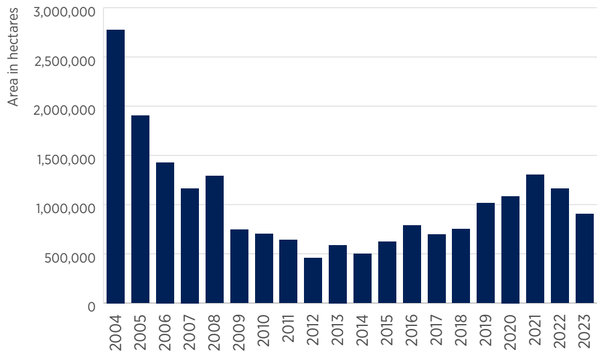


Figure 8 Conversion of natural vegetation in the legal Amazon 2004-2023 (data from PRODES[22])

Table 1 Soy under the Amazon Soy Moratorium (ASM) (data from Moratória da Soja)

	2018/ 2019	2019/ 2020	2020/ 2021	2021/ 2022	2022/ 2023
Soy production (area) not in line with ASM (in Mha)	0,09	0,10	0,15	0,19	0,25
Soy production in the Amazon, in line with the ASM (in Mha)	5,09	5,4	5,85	6,41	7,03

Figure 8 also shows that between 2019 and 2022, conversion increased. In this period, Jair Bolsonaro was the president of Brazil. His focus was more on agricultural expansion than on nature protection. Bolsonaro reduced the budgets for institutions in charge of deforestation enforcement, such as the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA). As a result, conversion for illegal logging, mining, and agriculture production grew by 59% compared to the previous administration[25].

Conversion decreased again when President Luiz Inácio Lula da Silva took office in January 2023. Amongst others, his administration reinstated programs to monitor and control deforestation and strengthened enforcement against illegal logging[26]. The Amazon Fund, a financial instrument established in 2008 but halted between 2019 and 2022, was reopened, allowing for sustainable development initiatives in the Amazon. While the new administration prioritizes halting illegal practices, at the same time, there are ongoing and new infrastructure projects, such as the BR-319 highway and the Ferrogrão railway, that could boost deforestation for commodity production. In addition, forest fires are becoming more frequent and severe[27], threatening biodiversity and the livelihoods of communities in the Amazon[28].

1.1.3 Gran Chaco

The Gran Chaco is among the largest dry forest ecosystems globally, stretching across Argentina, Bolivia, Brazil, and Paraguay. The area is about a quarter of the size of the entire European Union. The biome is largely dry forest, more sparsely forested to the west, but including swampy areas to the east. It serves as an important carbon sink and has rich biodiversity. The Argentine Gran Chaco makes up around two-thirds of the biome. About a quarter of Argentina's Gran Chaco was converted for agricultural use over the last 20 years. Between 1998 and 2023, the area lost nearly 7 million hectares. While most soy in Argentina is cultivated in the Pampas region (45% in 2019), characterized by natural grassland, soy cultivation is expanding towards the Chaco[29].

Figure 9 shows the conversion in the entire Chaco, covering Argentina, Bolivia, Brazil, and Paraguay. Over the period 2004 – 2023, the Gran Chaco lost nearly 10 million hectares of natural wooded vegetation and herbaceous natural, reflecting a 10% reduction. The data shows considerable fluctuations in conversion rates over the years. This variability suggests that different factors, such as policy changes, economic conditions, and environmental regulations, may have influenced the rate of conversion.

Argentina's Forest Law prohibits the deforestation of important natural areas. The Forest Law categorizes forest land for conservation or use: red (strict protection), yellow (sustainable use), and green (potential conversion with conditions). While the law helps to protect nature, weak enforcement and lenient penalties have not halted illegal deforestation.

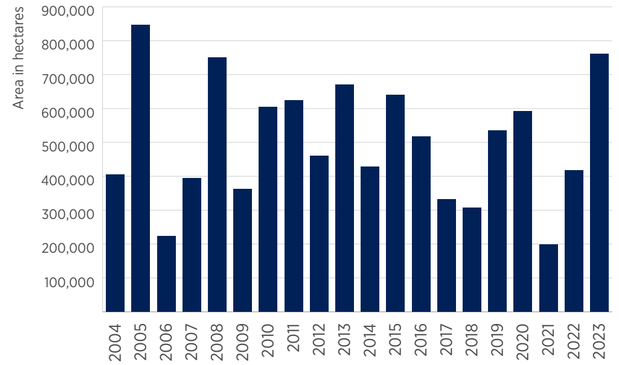


Figure 9 Conversion of natural vegetation in the Gran Chaco 2004-2023* (based on MapBiomas Chaco[30])

*The figure was compiled by subtracting the intact hectares of natural wooded vegetation and herbaceous natural land from one year to the next.

1.2 World soy consumption

The global appetite for soybeans continues to grow as the world population increases and diets change in the direction of more animal-based protein. Figure 10 gives an idea of the different end uses of soy. Although the exact percentages should be interpreted with caution, it is undisputed that there are many uses for soy and that animal feed is the biggest of them. Some of the uses in Figure 10 use the whole bean (e.g., tofu, soymilk, soybeans for direct feed, and tempeh). Others use the meal and or the oil. Soybeans contain roughly 20% oil and 80% protein meal. Soybean meal has an amino acid composition very favorable for use in animal feed. Soybean oil is used in many food and industrial applications.

1.2.1 Soy imports by China

China is by far the biggest importer of soybeans between 2019 and 2023, as can be seen in Figure 11, and between 2022 and 2023 accounted for 60% of global soy imports. China has a large crushing capacity and does not play a significant role in the import of crushed beans, as can be seen in Figure 12.

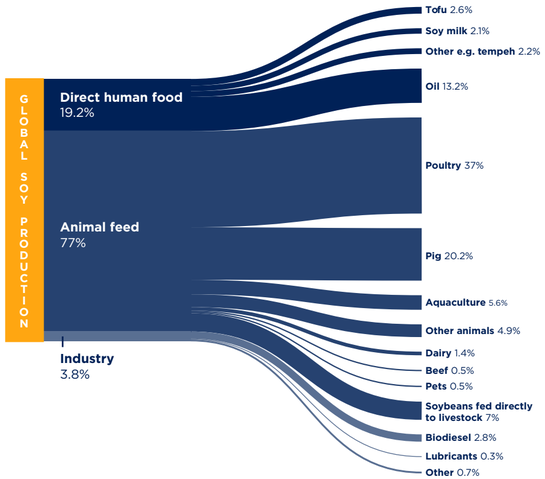


Figure 10 Allocation of global soy production to its end uses by weight, based on 2017-2019 data (based on Our World in Data[31])

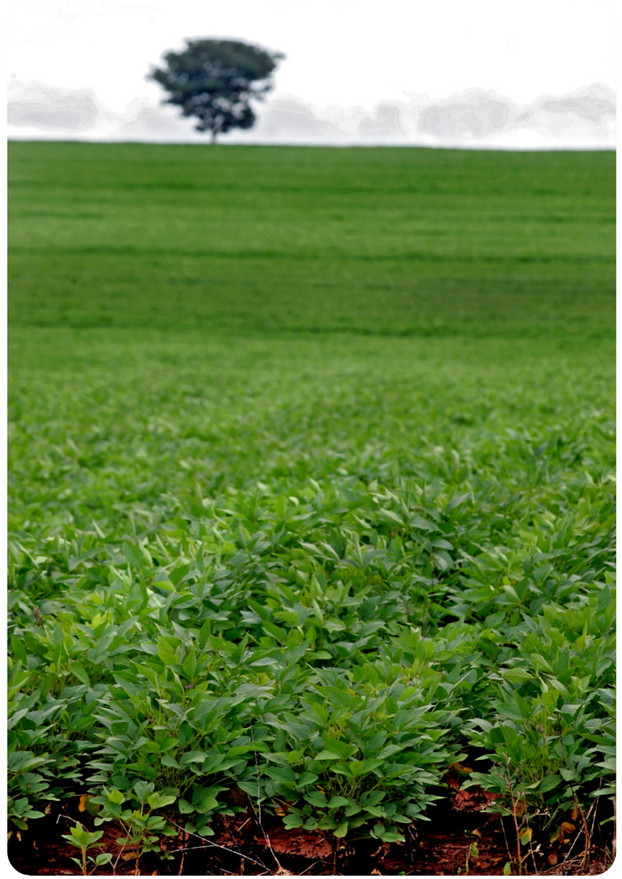
The 2019 imports of soybeans were lower due to the outbreak of African swine fever[32], which impacted the demand for pig feed. As China crushes 80% of the soybeans for feed, such an epidemic has a significant impact on imports. In 2023, a significant increase in imports can be observed. This might be partly attributed to the expansion of the pork and poultry industry[33] in China and the restocking of government-owned reserves[34]. In 2023, China's Ministry of Agriculture launched a three-year action plan aimed at lowering the proportion of soybean meal used in animal feed, as part of its strategy to decrease dependence on soybean imports. It aims to reduce the soy in feed ratio from 14.5% in 2022 to 13% by 2025. China also aims to increase its own soy production[35]. However, the plans have not yet resulted in a reduction in imports[36].
In the meantime, China especially imports soybeans from Brazil and has already started a movement away from soy from the United States.

In China, different agencies and NGOs such as Solidaridad and WWF have worked on raising awareness on the issues of soy production-related deforestation and land-use change (LUC). This has resulted in the launch of the China Sustainable Soy Guidelines in 2020. These Sustainable Soy Guidelines are designed to align with national and international standards and regulations to promote sustainability in the Chinese soy sector.

1.2.2 Soy imports by the EU27+

After China, the EU27+ is the biggest importer of soybeans, as can be seen in Figure 11, and it is the largest importer of soybean meal, as can be seen in Figure 12. The EU27+ imports around 30 million tonnes of soybean products every year. Imports of soybeans and soybean meal show fluctuations over time. The EU27+ can alternate between importing soybeans and soybean meal depending on global prices, availability, and supply chain conditions. When whole beans are cheaper or more readily available, the EU27+ may import them for local processing. Conversely, if there's a shortage of beans or if processing costs are high, the EU27+ may choose to import processed meal instead.

After a sharp increase of almost 10% between 2019 and 2020, soybean imports to the EU have been declining in 2021, 2022, and 2023. In 2024, imports increased again. The increase in 2020 may be linked to the reduced availability of rapeseed meal during COVID-19, which was partly compensated by higher soybean imports[37]. Between 2020 and 2023, a decline of 15% is seen. Chapter 2 zooms in on EU production.



1.2.3 Soy imports by other countries

Although Argentina is a large soy producer itself, it imports vast amounts of soybeans from other countries. The sharp increase in Argentina's soybean imports in 2023 stems from a severely reduced harvest in the country itself[38], as discussed in section 1.1. As a major exporter of soybean meal and oil, Argentina sourced soybeans from other countries to compensate for the shortfall and sustain its exports[39].

In addition to the European Union, Indonesia and Vietnam import significant amounts of soybean meal. Indonesia does not crush soybeans and therefore relies on imports of soybean meal for animal feed. Soybean meal in Indonesia is particularly used in the poultry sector and for aquaculture. Increasing demand for poultry and fish reflects the increase in soybean meal imports[41].

Vietnam is a large producer of pork and aquaculture,[42] and imports soybean meal for feeding the animals in those industries. When African swine fever impacted the Vietnamese pork industry significantly in 2019, this resulted in a sharp decline in soybean meal imports in 2020. Between 2021 and 2023, African swine fever transitioned from large, sudden outbreaks to a stable, ongoing presence in specific regions[43].

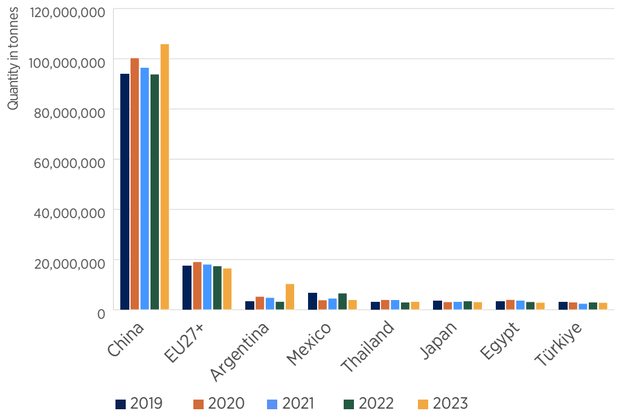


Figure 11 Main importing countries of soybeans 2019-2023 (data from FAO[40])

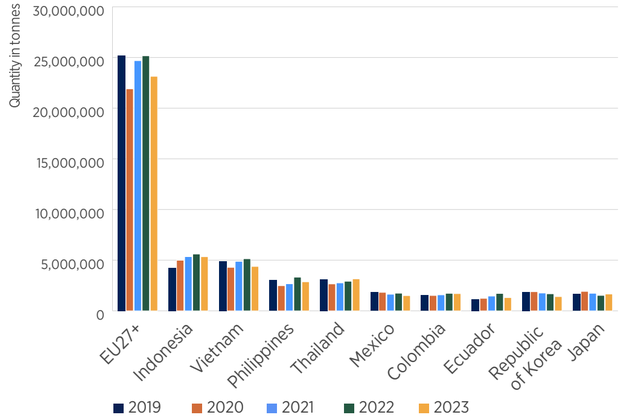


Figure 12 Main importing countries of soybean meal 2019-2023 (data from FAO[44])

1.3 Developments in responsible soy

Soy production is linked to different sustainability risks such as agrochemical (mis)use, deforestation, land conversion, and violations of human rights. The expansion of soy cultivation has largely been driven by an ever-growing global demand for animal feed, and as a crop widely cultivated in the tropics and sub-tropics, it is suited for cultivation in the exact areas where large expanses of tropical forests and savannahs remain. However, it is far from the only cause of deforestation and conversion, with beef pasture generally found to be the largest driver of tropical deforestation, and other crops, including palm oil and cocoa also strongly associated with deforestation and conversion.[45]

In the voluntary sphere, these topics have been addressed in various arenas and initiatives via different instruments such as holistic certification schemes, biomewide moratoria, clean supplier approaches/Monitoring Reporting & Verification systems, and landscape initiatives. At the same time, governments (Norway, Germany, France, Switzerland[46]) have started to implement legislation linked to sustainability due diligence. Thereby, the voluntary and obligatory spheres have started coming together. In this section, we introduce key initiatives of the voluntary sector and briefly sketch key legal developments that are likely to have started to exert an influence on the sector in 2022 and 2023.

1.3.1 Voluntary initiatives in soy

The voluntary sector has explored different instruments for sustainable soy, of which certification and landscape initiatives are two examples. Various multistakeholder initiatives work on soy sustainability. Below, we highlight key voluntary initiatives certification schemes are highlighted in chapter 2.

- **Amazon Soy Moratorium-Brazil**
  The Amazon Soy Moratorium (ASM) is a voluntary agreement between traders, civil society organizations, and the government to not source soy from farmers in the Amazon biome who deforested their lands after 2008. There is currently uncertainty as to whether the ASM will continue.

- **FEFAC SSG**
  In 2023, FEFAC published the third update of the FEFAC Soy Sourcing Guidelines (FEFAC SSG). The FEFAC SSG are a reference for sustainable soy used in the compound feed sectors (i.e., premixed blends of ingredients fed to livestock). All positively benchmarked standards meet criteria on the content (sustainability topics covered) and verification. In 2023, Guidelines raised the criteria from excluding illegal deforestation to excluding all no deforestation and no conversion, with a cut-off date of no later than 31 December 2020. Since the introduction of the FEFAC Soy Sourcing Guidelines, they have been used as a benchmark by other initiatives including the Aquaculture Stewardship Council (certification for sustainable aquaculture production), the Consumer Goods Forum's Forest Positive Coalition, GLOBAL G.A.P., QS Soyplus, and national agreements (see Chapter 3).

- **Responsible Commodities Facility**
  Increasingly, instruments are sought that provide the right financial incentives to farmers to refrain from legal conversion of their land. The Responsible Commodities Facility (RFC) is a blended finance instrument based on providing conditional finance to farmers. The facility offers financial incentives to soy farmers who are committed to zero deforestation and no conversion of natural vegetation. The fund has US$47 million to offer low-interest loans to soy farmers in Brazil's Cerrado biome who comply with the RCF's eligibility criteria and commit to zero deforestation and conversion and maintain natural vegetation on their farms at, or above, the extent required by Brazil's Forest Code.

- **Collaborative Soy Initiative**
  The Collaborative Soy Initiative (CSI) brings together international players in and around the soy supply chain during online expert sessions and content-rich webinars. With its Magic Cube concept, it introduced a discourse and conceptualization (of: the importance) of tailor-made combinations: complementary routes toward sustainable soy. CSI provides advice on EUDR implementation with value

added on other sustainability topics through its guidance " EU Compliant Soy with Impact" - including a list of practical tools.

- **ENSI – European National Soy Initiatives**
  ENSI brings together nine different National Soya Initiatives from different countries in Europe. Together with the Amsterdam Declaration Partnership (ADP) and IDH, these initiatives collaborate on their joint mission of sustainable, DCF soy consumption via frequent exchange of best practices and expert sessions. Chapter 3 shows the impact of national cooperation for sustainable soy uptake.

- **Soft Commodities Forum**
  In the Soft Commodities Forum, six traders are working together to initiate a positive impact in Brazilian municipalities that have a high risk of land conversion. Via the Farmer First Clusters, they collect funding and support local organizations to work on six different impactful interventions such as cattle-soy integration, reforestation and improved agricultural practices.

- **CGF Forest Positive Coalition of Action**
  The Forest Positive Coalition is an offspring of the Consumer Goods Forum and brings together frontrunning organizations with a clear commitment to protecting the world's forests. With their soy roadmap, 22 companies commit to using sustainable, DCF soy. CGF members have reportedly increased the transparency of their soy supply chains and are engaged in 23 collaborative landscape initiatives.[47]

- **Retail Soy Group**
  The Retail Soy Group (RSG) was formed in 2013 to address a sector-wide gap in meeting demand for sustainably produced soya. It is an independent group of international retailers working collaboratively in a pre-competitive space, to find industry-wide solutions for soy for their animal feed and human food supply chains. The RSG has engaged with policy makers on sustainable soy and develops tools to support its members increase the deforestation and conversion free soy in their supply chains.

- **Soy Transparency Coalition**
  The Soy Transparency Coalition is an offspring of the Retail Soy Group that aims to set up a structural dialogue with traders on important sustainability topics. In addition, the Coalition benchmarks different traders in the area of sustainability, transparency, and traceability.

- **Protocolo Verde dos Grãos (Green Grain Protocol)**
  The Green Grain Protocol is a commitment taken in 2014 by Abiove and the Association of Cereal Exporters (Anec) to the Federal Prosecution Office in Pará, Brazil. The protocol establishes that its signatories shall trade exclusively with producers that meet a series of social and environmental criteria. Approximately 3.2 million tons of soybean, about 96% of the state's production, meet the requirements established in the Protocol.

1.3.2 Legal developments impacting soy

In response to growing concerns about human rights and environmental impacts in global supply chains, and as implementation mechanisms for the European Green Deal, several legislative measures were introduced across Europe in 2022 and 2023. While these laws are not targeted solely at the soy sector, they will have a significant impact on it. This includes legislation directly addressing deforestation, such as the European Union Deforestation Regulation (EUDR), as well as broader sustainability initiatives like the Corporate Sustainability Due Diligence Directive (CSDDD), which require companies to take responsibility for their supply chain impacts, including those related to soy. These different pieces of legislation are part of a new type of law, that started with the illegal fishing and illegal timber regulations around 15 years ago.

Furthermore, mandatory reporting requirements under the Corporate Sustainability Reporting Directive (CSRD) oblige companies to transparently disclose their business practices, covering sectors like soy. Together, these regulations, demanding both action on specific risks and public reporting, create a strong framework for addressing challenges in the soy supply chain.

- **EU Deforestation Regulation - EUDR**

In November 2021, the European Commission proposed a regulation to address deforestation and forest degradation (the EUDR). A provisional agreement was reached between the European Council and the Parliament in December 2022, and the regulation entered into force in June 2023. This regulation mandates that from 30.12.2025 on, businesses selling, supplying, or exporting specific products—such as palm oil, cattle, wood, coffee, cocoa, rubber, and soy— in, or from, the EU, must follow strict due diligence requirements to ensure that the commodities are not linked to deforestation (cut-off date 31.12.2020) and are legally produced. These rules also apply to certain products made from these materials, and for soy, this includes soybeans, soy meal, soy oil and soy flour[48]. The rules begin to apply for medium & large operators and traders from 30 December 2025, and from 30 June 2026 for micro and small enterprises.

- **Forest Risk Commodities (FRC) UK**

The UK Forest Risk Commodity Regulation (UKFRC) is a key component of the Environment Act 2021, aimed at combating illegal deforestation and promoting sustainable supply chains. It is still awaiting secondary legislation to come into force and to define the precise implementation requirements[49]. The UK FRC will be narrower in focus than the EUDR, applying only to those companies with a global turnover of over £50m, with businesses using 500 tonnes or less of each commodity able to apply for an exemption[50]. Businesses covered by these rules must conduct due diligence and report on their findings annually. The Regulation is expected to cover non-dairy cattle products (beef and leather), cocoa, palm, and soy (and any products derived thereof).

- **EU Corporate Sustainability Due Diligence Directive – CSDDD**

In 2022, the European Commission introduced a proposal for a Directive on Corporate Sustainability Due Diligence. This directive requires companies to take responsibility for identifying, assessing, and mitigating the negative impacts in their supply chains, including child labor and environmental pollution. The Directive officially entered into force in July 2024[51]. At the moment of writing, the scope and content are part of the EU Omnibus Sustainability Package. Definitive adjusted text may be expected later in 2025/2026.

- **Lieferkettensorgfaltspflichtengesetz (LkSG)**

Following France's due diligence law (Loi de Vigilance, 2017), Germany endorsed the Act on Corporate Due Diligence Obligations in Supply Chains (LkSG). The Act has been applicable since January 1, 2023, to companies in Germany with 3,000 or more employees. From January 1, 2024, it also applies to companies with at least 1,000 employees. This law mandates that German companies in scope establish strong risk management systems to identify, prevent, or minimize human rights violations and environmental damage within their supply chains[52]. Note that also in Germany, there are ongoing discussions to pause or weaken the regulation[53].

- **Corporate Sustainability Reporting Directive – CSRD**

Companies are increasingly required to report transparently on their supply chain activities, holding them responsible for their environmental and social impacts. The Corporate Sustainability Reporting Directive, in force since 2023, requires companies in scope to publish annual sustainability information. Topics like climate change and biodiversity are among the many areas companies may need to report on. At the moment of writing, the scope and content are part of the EU Omnibus Package.

Definitive adjusted text may be expected later in 2025/2026.

2 Uptake of responsible soy in EU27+

Several EU countries are focusing on sustainable soy, aiming to avoid soy linked to deforestation and land conversion. These efforts have increased the uptake of soy meeting the FEFAC Soy Sourcing Guidelines. Additionally, the EU encourages domestic soy production to support crop rotation and protein self-sufficiency.

2.1 The EU27+ soy footprint

The European Union imports around 30 million tonnes of soy products per year, produces its own soy, uses the soy for the production of other food products, and exports food products containing embedded soy towards other parts of the world. Together, these soy flows constitute the EU27+ soy footprint—the total amount of soy, whether visible or embedded in products, that is consumed within the European Union.

To calculate the uptake of FEFAC Soy Sourcing Guidelines compliant soy in EU27+, we take the European soy footprint as the reference. In 2022, European soy consumption was 29,564,427 tonnes, and in 2023, 28,318,310 tonnes, based on EuroStat and ITC trade data. These values are calculated by adding soy imports (both direct and embedded) and domestic soy production and subtracting exports of direct and embedded soy. The definition of EU27+ includes all countries within the European Union, the United Kingdom, Norway, and Switzerland (EU27+).

2.1.1 Net import of direct soy

Figure 13 shows the aggregated volume of soybeans, soybean meal, and soybean oil (not converted) imported to the EU27+. The figure also shows the representation of EU soybean production. When examining the import of soy products into the EU27+, an overall decline can be observed.

Several factors influence fluctuations in the origins of soy imported to the European Union. For example, in 2018, the President of the European Commission, Jean-Claude Juncker, and the U.S. President committed to strengthening trade ties between the EU and the U.S., which included an agreement to increase imports of U.S. soybeans into Europe[54].

In 2019, the European Commission further facilitated this by concluding that U.S. soybeans met the sustainability requirements for use in EU biofuels, improving conditions for greater U.S. soy imports. Additionally, low U.S. soy prices in 2019, largely a result of the U.S.-China trade war, contributed to a relatively high volume of U.S. soy product imports into the EU that year[55].

While trade relations significantly influence sourcing patterns, they are not the only factor; harvest outcomes and overall availability also impact price and trade volumes. Nevertheless, the link between trade agreements and changes in soy origin is clear. In today's context, with the possibility of new tariffs on U.S. soy looming, both from the EU[56] and China[57], a renewed shift toward Brazilian soy imports may be expected.

The impact of extreme weather conditions is clearly visible when looking at the imports from Argentina. While relatively stable over the period 2019-2022. A significant decline can be observed from 2022 to 2023 of 45%. As explained in Chapter 1, severe droughts heavily impacted Argentine soy production.

Table 2 shows the import and export of soybeans (in soybean meal equivalent =*0.8) and soybean meal into and from the EU27+. Both soybeans (crushed into meal or oil) and soybean meal are dominantly used for animal feed. Over the period 2019-2023, an overall decline can be observed both for soybeans (3%) and soybean meal (11%). The stronger decline in soybean meal may be partly attributed to the increase in crushing capacity in Europe, combined with increased own production[58 59].

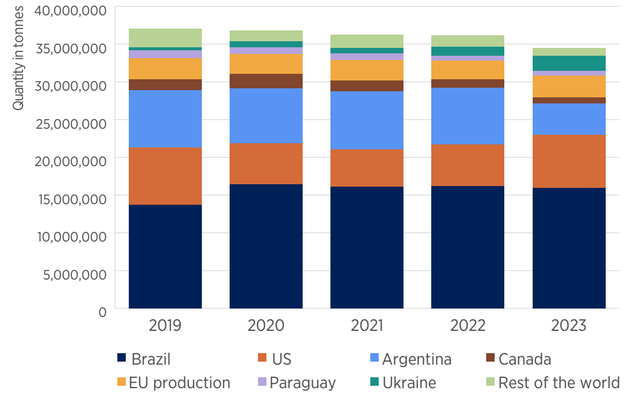


Figure 13 Origins of soybeans, soybean meal, and soybean oil available in the EU27+ (Based on EuroStat and FAO)

Table 2 Import and export of soybean (in soybean meal equivalent) and soybean meal into and from EU27+ (Based on EuroStat and FAO)

	2019	2020	2021	2022	2023
Import soybeans to EU27+ (*0.8) (HS 1201)	12,091,932	12,961,196	12,097,221	12,177,113	11,653,410
Export soybeans from EU27+ (*0.8) (HS 1201)	195,104	221,635	152,829	119,120	155,068
Net import soybean in soybean meal equivalent	11,896,828	12,739,561	11,944,392	12,057,993	11,498,342
Import soybean meal to EU27+ (HS 2304)	18,797,295	17,508,706	18,014,703	17,995,506	16,572,960
Export soybean meal rom EU27+ (HS 2304)	461,408	1,500,672	227,441	181,995	217,898
Net import soybean meal	18,335,886	16,008,034	17,787,262	17,813,511	16,355,062

2.1.2 Soybean production in the EU27+

Figure 14 shows the soybean harvested production in the EU27+ region from 2019 to 2023. Between 2019 and 2023, EU soy production showed moderate fluctuations, starting at 2.82 million tonnes in 2019 and rising to 2.86 million tonnes in 2023. The lowest point occurred in 2022, when production dipped to 2.51 million tonnes. The strong recovery in 2023 suggests improved weather conditions or increased cultivation efforts. It is notable that Italy, Austria and Germany are among the top five preforming countries in terms of soybean yield per hectare*.

Protein production, including soy production, in the European Union is modest. It is estimated that the European Union's self-sufficiency for soy is 8%[60]. In its Protein Strategy, the European Commission recognizes the need to produce more protein crops in the European Union. One way to address this deficit is by increasing domestic protein production. The strategy also emphasizes diversifying protein sources and improving the circularity of feed use. Recent global events have added urgency. Price volatility and trade disruptions now pose significant risks to EU food security. At the same time, the environmental impacts of feed imports, such as deforestation, land degradation, and biodiversity loss in exporting countries, underscore the need for a more sustainable and resilient protein supply chain[61].

It is important to note that Ukraine is the largest producer of soybeans on the European continent, with annual volumes ranging from 3 to almost 5 million tonnes during this period. Despite the ongoing war, soybean production in Ukraine has continued to rise. With a substantial yield gap of 27% identified in Ukraine, there remains potential to increase soybean production without expanding agricultural land[62].

2.1.3 Embedded soy

The European Union has a large livestock sector and uses the soy imported from countries such as Brazil and the United States to produce vast amounts of meat, dairy, and eggs.

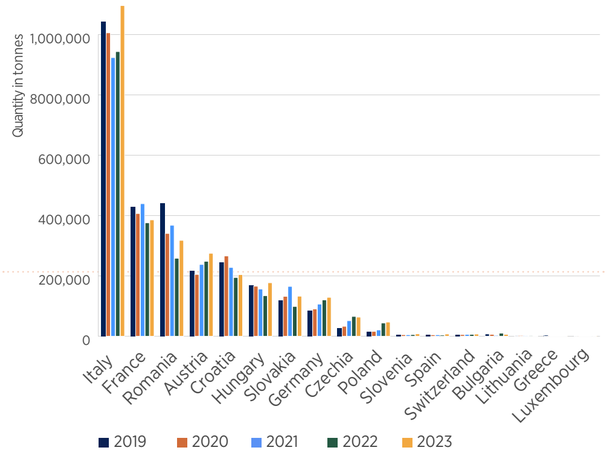


Figure 14 Soybean production in the EU27+ (excl. Norway & U.K) 2019 – 2023 (data from EuroStat)

These animal-based products come with a footprint of 'embedded soy' or 'hidden soy'. Most animal-based products are traded within the European Union, but some exports to and imports from other parts of the world also take place.

Figures 15 and 16 show the import and export of embedded soy over the period 2019-2023. Please note that the figures are not corrected for the United Kingdom, Switzerland, or Norway, only showing data from EU28 (2019) and EU27 (from 2020 on).

Definitions

Beef
All frozen, fresh, or chilled meat of bovine animals (HS 0201 and HS 0202)

Pork
All frozen, fresh, or chilled meat of swine (HS 0203)

Poultry
All frozen, fresh, or chilled meat and edible offal of poultry (HS 0207)

Eggs
Birds' eggs and dried eggs (HS 0407 and HS 0408)

Cheese
All cheeses and curds (HS 0406)

Other dairy products
All kinds of milk, cream, buttermilk, and whey products (HS 0401-HS 0405)

* Calculated based on average soy yield values for the period 2017-2021, according to Donau Soja for Collaborative Soy Initiative see reference 63.

Figure 15 shows that pork imports were at an all-time low in 2020. This may be due to the outbreak of African Swine Fever in China, which significantly reduced supply in 2019[63]. During this same time, we see an increase in European Union pork exports.

Since 2021, significantly less pork has been produced in the EU due to a decline in pig herds. This leads to a decrease in exports and an increase in imports. The outbreak of African Swine Fever in the EU in 2023[64] will most likely impact the continued increase of pork imports.

Figure 16 shows a decrease in poultry exports since 2020. This decrease is likely to be caused by the severe outbreak of avian influenza (HPAI), which, according to the European Centre for Disease Prevention and Control, affected 37 European countries and led to the loss of around 50 million birds, including poultry[65]. As a response to declining declining poultry production, an increase in imports can be observed both for poultry and eggs starting in 2021. While exports have dropped since 2020, the EU27 remains a net exporter of embedded soy.

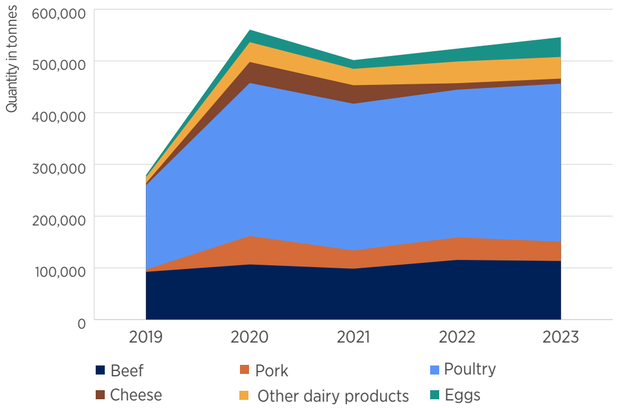


Figure 15 EU27 Import of embedded soy 2019-2023 (data from EuroStat)

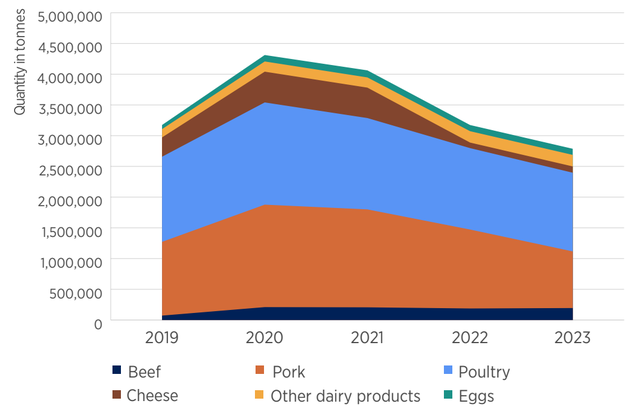


Figure 16 Export of embedded soy EU27 2019-2023 (data from EuroStat)

2.1.4 Soybean meal available for consumption in the EU27+

Table 3 illustrates how the total soybean meal available for consumption in the EU27+ is calculated. It is based on EuroStat, Comtrade, and ITC trade data (view the methodology chapter for detailed insights). The soybean meal available for consumption is the reference value used to calculate the uptake of FEFAC SSG compliant soy in the next section.

Over 2019-2023, the EU has reduced its imports of soybeans by 3% and soybean meal by 11%. Domestic soy production has declined by 17% over the whole period, largely as a consequence of a large drop in 2019 after which a gradual recovery has been observed. Notably, exports of embedded soy have also fallen by 6%, reflecting factors discussed earlier, such as pests and diseases affecting animal products, ongoing trade tensions, and the EU's push for greater self-sufficiency.

Table 3 Soybean meal available for consumption in EU27+ 2019-2023, based on EuroStat and ITC trade data

	2019	2020	2021	2022	2023
Import soybeans (*0.8)	12,091,932	12,961,196	12,097,221	12,177,113	11,653,410
Export soybeans (*0.8)	195,104	221,635	152,829	119,120	155,068
Net import soybeans (*0.8)	11,896,828	12,739,561	11,944,392	12,057,993	11,498,342
Import soybean meal	18,797,295	17,508,706	18,014,703	17,995,506	16,572,960
Export soybean meal	461,408	1,500,672	227,441	181,995	217,898
Net import soybean meal	18,335,886	16,008,034	17,787,262	17,813,511	16,355,061
EU27+ soybean production (*0.8)	2,742,000	2,154,800	2,175,152	2,010,000	2,287,280
Import embedded soy	263,087	826,847	117,211	210,738	289,152
Export embedded soy	3,114,065	3,577,775	3,296,044	2,527,815	2,111,526
Net available embedded soybean meal	-2,850,978	-2,750,928	-3,178,833	-2,317,077	-1,822,374
Total soybean meal available for consumption in EU27+	**30,123,736**	**28,151,467**	**28,727,973**	**29,564,427**	**28,318,310**

2.2 FEFAC SSG compliant soy

The FEFAC Soy Sourcing Guidelines introduced holistic sustainability criteria for soy, covering topics such as legal compliance, human rights, labor rights, environmental responsibility, good agricultural practices, and community relations. The Guidelines are an important benchmark in the soy sector. Since its launch, two updates have happened. Standards benchmarked against the FEFAC SSG are considered to ensure that soy is produced sustainably.

When identifying how much soy was sourced in line with the FEFAC Soy Sourcing Guidelines, the 18 standards positively benchmarked against the 2021 version of the FEFAC SSG are the reference*. Table 4 (see next page) shows an overview of the certified volumes and the (estimations) of soy shipped to EU27+ during the years 2019-2023. As can be seen in Table 4, not all standards provided information over the past years, partly because the schemes ceased to operate, or because they assert that sharing such data is competitively sensitive. In addition, not all information could be used due to the risk of double counting.

Table 4 makes a clear distinction between book & claim and area mass balance (credit-based models) and chain of custody models (mass balance, segregation). RTRS, CRS, and SFAP are especially providing credits, ISCC, the trader-owned standards, and SSAP offer mass balance soy, and Donau Soja / Europe Soya and Proterra offer segregated (non-GM) soy.

Based on the available data, there has been a notable increase in volumes under the FEFAC SSG schemes. Between 2019 and 2023, the total volume of certified soy grew by 67%, with a 22% increase specifically within the EU27+ market. It is important to note that not all schemes have consistently reported data over the years, which may limit the robustness of the analysis. However, seven schemes have provided continuous data, allowing for more reliable trend assessment. Further details on the developments of individual schemes are provided in Section 2.2.2

Disclaimer

Trading companies such as ADM, Bunge, Cargill, LDC, Cefetra, Cofco, and Amaggi offer a broad range of different soy options: certified or non-certified, conventional or GMO. They can offer many different options in alignment with the demands of their customers. This means that these companies also work with, for instance, RTRS soy, Proterra soy, 2BsvS soy, etc.

In Table 4, we aim to report only the volumes under the trader-owned FEFAC SSG compliant standards (e.g., CRS by Cefetra, Origins by Amaggi). We do that to avoid double-counting since standards such as RTRS and ISCC also report their volumes to us. Most trading companies don't share the data for their own FEFAC SSG compliant scheme because they consider this as competition-sensitive information.

We want to emphasize that Table 4 does not say anything about the extent to which trading companies are engaged in selling sustainably certified soy. It only shows to what extent their own FEFAC SSG compliant standard is used to serve specific markets with responsible soy.

Table 4 Overview of soy delivered under the FEFAC SSG compliant soy standards to EU27+ in tonnes 2019-2023, based on data from standard owners

Name standard	Supply chain model	2019		2020		2021		2022		2023	
		Total volume certified soybeans globally	Destined for EU27+	Total volume certified soybeans globally	Destined for EU27+	Total volume certified soybeans globally	Destined for EU27+	Total volume certified soybeans globally	Destined for EU27+	Total volume certified soybeans globally	Destined for EU27+
Agricultura Sustentable Certificada		350,000	80,000	350,000	100,000	-	-	-	-	-	-
Cargill Triple-S		317,000	200,000	560,000	73,378	-	-	-	-	-	-
Cefetra CRS	Book & claim, area mass balance	621,000	633,226	442,000	442,607	562,980	562,980	999,951	Credits 1,201,492	1,343,801	Credits 1,140,912
CSQA		-	-	508,000	508,000	-	-	-	-	-	-
Donau Soja + Europe Soya	Segregation, European mass balance	675,000	675,000	610,000	610,000	715,000	715,000	1,099,700	1,099,700	1,112,600	1,112,600
Proterra	Mass balance, segregation, identity preserved	2,988,373	2,988,373	3,032,171	3,032,171	1,981,249	1,981,249	2,392,432	2,392,432	2,532,021	2,532,021
RTRS	Book & claim, country mass balance, mass balance, segregation	4,085,655	3,652,006	4,509,343	3,856,780	4,639,071	4,310,158	7,048,484	4,450,225 (Physical: 281,924, Credits: 4,168,301)	7,469,027	5377014 (Physical: 104,990, Credits: 5,272,024)
Sustainable Farming Assurance Program (SFAP)	Book & claim, area mass balance	470,000	470,000	550,000	550,000	600,000	600,000	575,000	Credits 575,000	600,000	Credits 600000
US Soy Sustainability Assurance Protocol (SSAP)	Mass balance	22,888,032	5,930,000	21,299,232	5,656,909	38,295,127	5,731,994	42,168,447	3,841,475	42,056,281	7,354,950
ISCC+	Mass balance	1,160,156	1,000,000	612,316	600,000	421,475	421,475	704,043	704,043	868,604	868,604
Amaggi -ORIGINS Field		59,000	0	43,400	-	-	-	68,121	0	143,633	56,856
ADM responsible soybean standard		-	-	-	-	-	-	-	-	-	-
Bunge Pro-S		-	-	-	-	-	-	-	-	-	-
FEMAS		-	-	-	-	-	-	-	-	-	-
Programma Coamo		-	-	-	-	-	-	-	-	-	-
Total in beans		**33,555,216**	**15,628,605**	**32,516,462**	**15,429,845**	**47,214,902**	**14,322,856**	**55,056,178**	**14,264,366**	**56,125,967**	**19,042,957**
Total in meal (x0,8)		**26,844,173**	**12,502,884**	**26,013,170**	**12,343,876**	**37,771,922**	**11,458,285**	**44,044,942**	**11,411,493**	**44,900,774**	**15,234,366**

Agricultura Sustentable Certificada (ASC), Amaggi Origins-Field, Cargill Triple S, Certified Responsible Soy (CRS), Donau Soja / Europe Soya, ProTerra, RTRS, Sustainable Farming Assurance Program (SFAP), US Soy Sustainability Assurance Protocol (SSAP), ISCC+, ADM responsible soybean standard, Bunge Pro-S, Louis Dreyfus Company (LDC), CSQA, FEMAS, Sodrugestvo, Food Chain ID (ProFarm).

2.2.1. FEFAC SSG compliant soy in 2019 and 2023

Over the years that the European Soy Monitor has existed, the overall uptake of FEFAC SSG compliant soy has been calculated. Table 5 shows the overall uptake since 2019.

After a growth in the uptake of FEFAC SSG compliant soy from 2018* to 2020, the uptake decreased from the peak in 2020 to a drop in 2022. Specifically, between 2020 and 2022, FEFAC SSG compliant soy for the EU27+ decreased by 7%, while soybean meal available for consumption increased by 2%. This contrast contributed to a widening gap between FEFAC SSG compliant volumes and the total soy available for consumption in Europe. The decline was primarily driven by a significant reduction in ProTerra-certified soy volumes in 2021, which fell by 35%. Additionally, CSQA did not report any volumes in 2021, contributing to the decline.

However, this trend reversed between 2022 and 2023, with FEFAC SSG compliant volumes for EU27+ increasing by 34%. Combined with a decrease in soy available for consumption, this led to a significant rise in the market share of FEFAC SSG compliant soy in EU27+. A major contributor to this rebound was the sharp increase in uptake of U.S. SSAP-certified soy, which increased by 91% during this period. The better administration and tracing of SSAP soy in Europe has increased the percentage of FEFAC SSG compliant soy in the EU27+. Further insights into the trends of individual certification schemes can be found in the next section.

2.2.2 Developments in certified soy

This section provides an analysis of the total certified volume under specific standards and the uptake of this certified soy in EU27+. The information in this section is reported by the standards themselves. Since the initial benchmark in 2016, new standards have been developed and benchmarked. The latest list is available via the FEFAC Transparency Tool hosted by the International Trade Center[66]. Below, we only report on the standards that have consistently provided data to the European Soy Monitor. The standards are clustered into multistakeholder standards, private company-owned standards, and farmer-owned standards.

Multistakeholder standards

Multistakeholder standards are not owned by a private company and are developed and governed through a process that actively involves a diverse range of stakeholders. We classify RTRS, Proterra, ISCC, and Donau Soja as multistakeholder standards. Note that Proterra and Donau Soja work with segregated soy, ISCC with mass balance, and RTRS predominantly with credits and a bit of mass balance. Figure 17 shows the total certified global production reported by the standards, and Figure 18 shows the uptake of soy from these 4 standards in EU27+, according to the standards, in the period from 2019-2023. In 2023, the total volumes under multistakeholder standards represent 3% of global soy production.

Table 5 FEFAC SSG compliant soy (incl credits) in EU27+ 2019-2023, based on table 3 and 4

	2019	2020	2021	2022	2023
Soybean meal available for consumption	30,123,736	28,151,467	28,727,973	29,564,427	28,318,310
FEFAC SSG compliant soy for EU27+	12,502,884	12,343,876	11,458,285	11,411,493	15,234,366
% FEFAC SSG compliant soy in the EU27+	**42%**	**44%**	**40%**	**39%**	**54%**

* In 2018, the overall percentage was 38%. This year is not included in the report due to the slight difference in methodology.

Notification

In the previous European Soy Monitors, two different percentages were reported:

- FEFAC SSG compliant soy
- Certified deforestation and conversion-free soy (6 from all FEFAC SSG compliant standards)

These six standards for certified deforestation and conversion-free soy (Pro-terra, Donau Soja, RTRS, ISCC, SFAP, CRS) were identified in the Profundo benchmark executed in 2020.

The distinction between FEFAC SSG compliant and certified DCF soy was made because, in the first version of the FEFAC-SSG, the minimum level was ‘no illegal deforestation’. In 2021, this was adjusted, and it became possible to identify standards that had a criterion for no deforestation and no conversion. In 2023, no conversion and no deforestation became an integral, obligatory part of the FEFAC SSG.

In the current context, it might be confusing to report the percentage of DCF soy since it could be assumed that this soy is certified, deforestation- and conversion-free in the physical supply chain, which is often not the case because credits are used. In addition, the FEFAC SSG compliant standards that consistently report to the European Soy Monitor are more or less restricted to the six mentioned above. Hence, the difference is less relevant.

- **The Roundtable on Responsible Soy**

Founded in 2006, the Roundtable on Responsible Soy (RTRS) brings a broad variety of stakeholders together to discuss responsible soy production. The multistakeholder process resulted in the RTRS certification standard in 2009. The standard includes sustainability criteria covering legal compliance, good business practices, human rights, responsible labor conditions, responsible community relations (including Free, Prior, Informed Consent), environmental responsibility (including no-deforestation, and no-conversion), and good agricultural practices.

Certification is carried out at the level of the individual farmer or a group of (smallholder) farmers by independent, accredited certification bodies. Over the years, credit trading has been the dominant model under which RTRS soy is sold to market actors. Mass balance certified RTRS soy reached peaks in 2021 (716.868 tonnes) and 2024 (900,000 tonnes). In 2024, 331,176 tonnes were destined for the biofuels market and 541,909 tonnes for the food and feed industry[67].

Figure 17 shows how the total certified volume of RTRS soy has increased in recent years. Figure 17 reports on the total certified volume produced worldwide, as reported by the standards themselves. In 2019, 4,085,665 tonnes of soy were certified. In 2023, a total of 7.5 million tons of RTRS-certified soybeans were certified, equivalent to roughly a quarter of the EU's soy imports. This is an increase of 83% in only 5 years.

In the period between 2019 and 2023, most of the certified soy found its way to end markets as certified RTRS soy, in particular via credits and partly via mass balance[68]. The mass balance varies between 7% (2023) and 14% (2021). EU27+ is an important market, as can also be seen in Figure 18. Figure 18 reports on the uptake of certified soy that has EU27+ as the end market, according to the standards themselves. Traditionally, the Netherlands (28.3% in 2023), the United Kingdom (17.5% in 2023), and Scandinavian countries (Denmark 15% in 2023) have been the biggest buyers of RTRS-certified credits[69]. However, the list of companies and countries from other parts of the world, such as Brazil, China, and Japan, is becoming longer every year. The role of credits in the new legal reality is uncertain, but RTRS reports an increase in certified facilities under the chain of custody standard. Hence, uptake of RTRS soy in the physical supply chain, possibly mixed with EUDR-compliant soy, is likely to increase.

- **ProTerra**

The ProTerra standard is based on the Basel Criteria for sustainable soy cultivation, which were developed by WWF and COOP Switzerland in 2004. The standard, launched in 2006, is crop agnostic but predominantly used in soy, and focuses on non-GMO production. It covers holistic sustainability criteria such as criteria on human rights and good labour practices, good agricultural practices, and no conversion of valuable ecosystems. Certification is carried out by independent, third-party certification bodies.

ProTerra offers non-GMO certified soy. Developments in production and sold volume are directly related to the overall non-GMO market. The price difference between conventional and non-GMO certified soy makes this soy less suitable for conventional feed solutions. Non-GMO soy predominantly finds its way in direct plant-based food products, but it is also used in feed products for the aquaculture sector and the organic market. Figure 17 shows that the total global certified volume of Proterra-certified soy was constant at 3 million tonnes in 2019 and 2020, decreased by 35% between 2020 and 2021[70], and is growing slowly again in 2022 and 2023. In 2023, Proterra reported that 2,532,021.24 tonnes of soybeans were certified to their standard (roughly equivalent to 8% of the EU's soy imports). Figure 18 shows that the EU27+ is responsible for the full uptake of Proterra-certified soy, according to the standard.

In addition to a certification standard for non-GMO, sustainable soy. ProTerra introduced its Monitoring, Reporting and Verification (MRV) system, aimed at supporting companies that aim to fully eliminate Deforestation and Conversion from their supply chains, irrespective of market demand. Proterra reports that in 2022, 3,190,703 tonnes of soy were assessed in the MRV system, and in 2023 this was 4,117,915 tonnes. It can be expected that the volume under the MRV system increases as a consequence of the focus on deforestation and conversion in regulation (in the UK and EU) and market requirements.

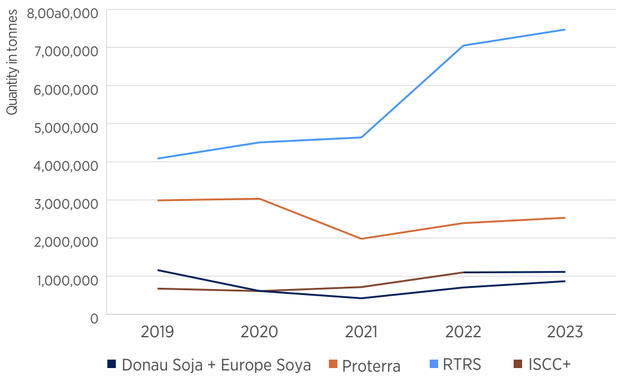


Figure 17 Global quantity of soy certified by soy multistakeholder standards 2019-2023, based on data from standard owners

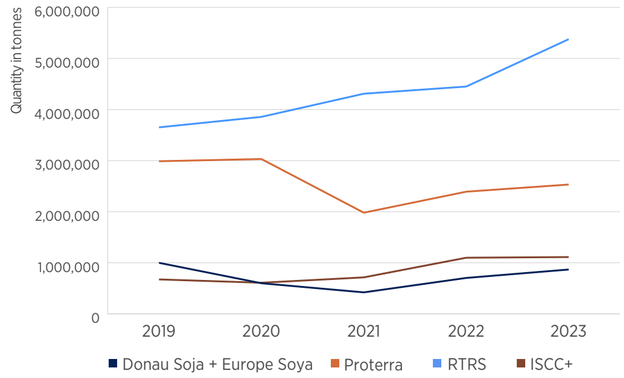


Figure 18 Uptake of certified soy or soy credits by EU27+ end markets 2019 – 2023, based on data from standard owners

- **Donau Soja**

Donau Soja is a non-profit organization that aims to promote the production of protein crops, among which soy, in Europe. The organization has two standards for sustainable, non-GMO soy from Europe: Donau Soja and Europe Soya. Both standards cover a broad range of sustainability criteria similar to RTRS and Proterra, but have a European scope. The standards are audited via a system of self-assessment, third-party verification by independent, accredited certification bodies, and additional integrity checks. Like for ProTerra, Donau soja is dependent on developments in the non-GMO market.

Figure 17 shows a significant increase of 56% of Donau Soja and Europe Soya (aggregated) volumes from 2021 to 2023. The increase in volume after the 2022 harvest is the result of the Protein Partnerships Programme in Bosnia and Herzegovina, Moldova, Serbia, and Ukraine[71]. The Protein Partnership Programme provides, among others, knowledge transfer & farmer trainings, as well as audits and verification of legality and deforestation and conversion free production, after which farmers or cooperatives and agricultural collectors are certified. In contrast to the certified, non-GMO Donau Soja and Europe Soya that rely on the segregated chain of custody model, the Protein Partnership Program works with a model similar to book&claim. This offers a cost-effective, scalable manner to compensate farmers for sustainability efforts without the higher prices of physical traceability in the supply chain. However, the primary collector gets also certified as a start to establish physically certified supply chains, and the soy is available on the European market. Figure 18 shows that all certified material finds its way to the EU27+ market.

- **ISCC**

The International Sustainability & Carbon Certification (ISCC) is a sustainability certification launched in 2010. The standard has been developed via a multistakeholder process and is governed by an association with more than 300 members. ISCC was developed in alignment with the European Union's Renewable Energy Directive (EU RED). There are different versions of the ISCC standard. The standard ISCC Plus is specifically relevant for soy used in food and feed, whereas ISCC EU focuses on biomass for biofuels. The sustainability criteria focus on the protection of land with high biodiversity value, preservation of land with high carbon stocks, good agricultural practices, protection of soil, water, and air, respect for human, labour, and land rights. The criteria are audited by an independent, accredited certification body. The standard works with the mass balance and segregated chain of custody models.

Figure 17 shows that the ISCC+ certified volumes declined after 2019, with their lowest point in 2021. After 2021, volumes produced increased again. In 2023, 868,604 tonnes of soy were certified and sold on the EU27+ market. Figure 18 shows that in the whole period between 2019 and 2023, most of the certified soy found its way to the EU27+ market.

Private company-owned standards

The next group of standards is owned by private companies, especially commodity traders. Most companies do not share their certified and sold volumes and mention that this is competitively sensitive information. Hence, we only report information from the private company-owned standards for which we have received information. In 2023, the total volumes under the private company-owned standards represent 1% of global soy production.

- **Amaggi-ORIGINS**

Amaggi is one of the biggest agricultural producers and commodity traders in Brazil. The company owns farms in Mato Grosso and other states in Brazil. Amaggi offers different solutions for responsible soy and has also developed its own Amaggi Responsible Soy Standard, which was positively benchmarked against the FEFAC SSG. In 2021, this standard was replaced by ORIGINS FIELD. ORIGINS is a traceability program wherein Amaggi offers deforestation-free, conversion-free, traceable, and third-party verified soy. ORIGINS FIELD is the soy solution that meets all criteria from the FEFAC SSG benchmark.

Figure 19 indicates that the volumes certified under the Amaggi Responsible Soy standard are modest and relatively constant over time, with a dip (to zero) in 2021. Figure 20 indicates that hardly any of this soy finds its way to the EU27+. In 2023, it was the first time that certified soy under Amaggis' own program entered the EU27+ market.

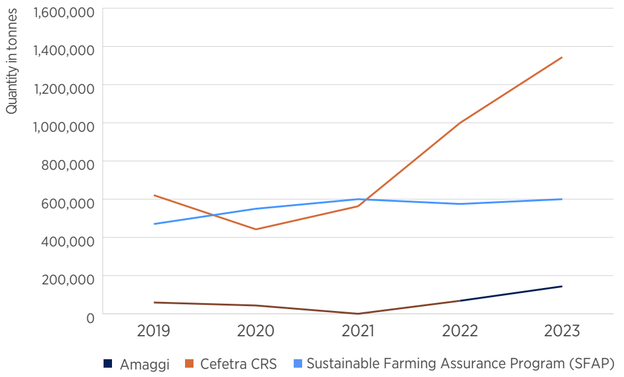


Figure 19 Global quantity of soy certified by private company-owned standards 2019-2023, based on data from standard owners

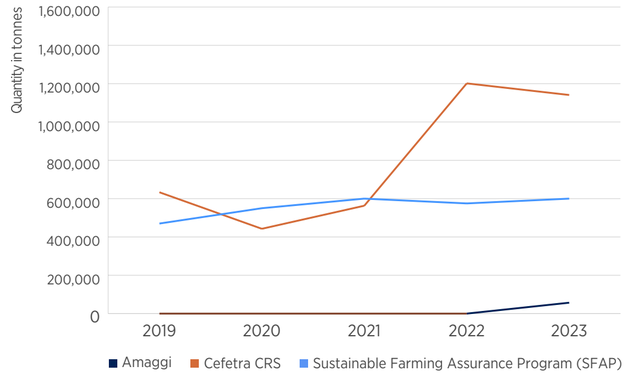


Figure 20 Uptake of certified soy or soy credits by EU27+ end markets 2019 – 2023, based on data from standard owners.

- **Sustainable Farming Assurance Program (SFAP)**

The Sustainable Farming Assurance Program was created by a consultancy called ProAgros in 2017. Farmers certified are predominantly located in the Brazilian Cerrado. The standard offers book & claim credits.

Figure 19 shows that the certified volume is rather constant over time, with around 600,000 tonnes certified per year. Figure 20 indicates that all the soy credits are acquired by European market players, especially to Western European countries.

- **Cefetra-Cefetra Responsible Soy (CRS)**

Cefetra is a commodity trader that is part of the BayWa Group. The company trades in over 250 commodities. Cefetra has initiated its Cefetra Responsible Soy program as a stepping stone towards RTRS certification. The dominant supply chain models for CRS soy are credit trading and area mass balance, a supply chain model developed by Cefetra, that links the credits to the origin of the physical soy acquired.

Figure 19 shows how the certified volume steeply increased over time. In 2022, Cefetra announced that due to a growing demand, they expected to double the volumes under CRS certification[72]. Between 2022 and 2023, their volumes increased by 34%. Most CRS soy finds its way to the EU27+, especially the UK, Belgium, and the Netherlands.

Farmer-owned standards

The last standards are farmer-owned standards. The only standard in this category is the U.S. Soy Sustainable Assurance Protocol (SSAP). In 2023, the total volume under SSAP represents 11% of global soy production.

- **U.S. Soy Sustainable Assurance Protocol**

SSAP is a soy program that is closely linked to the U.S. Farm Program. The majority of soy farmers in the United States produce in line with the SSAP criteria. Not all U.S. soy is classified as SSAP-certified, as this depends on whether an export certificate has been requested.

Figure 21 shows an increase in the volume of soy formally registered under the SSAP program. As mentioned previously, better administration of volumes to the EU27+ contributes to the increase throughout the years. The fact that companies in the EU27+ want proof that they acquired SSAP soy is possibly also aligned with the growing interest in carbon footprint data.

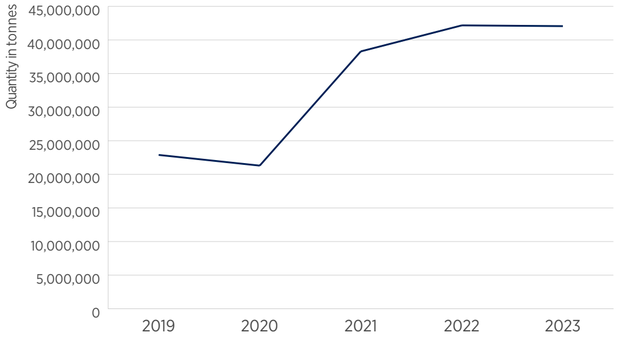


Figure 21 Global quantity of soy certified by the U.S. Soy Sustainability Assurance Protocol (SSAP) 2019-2023, based on data from U.S. Soybean Export Council

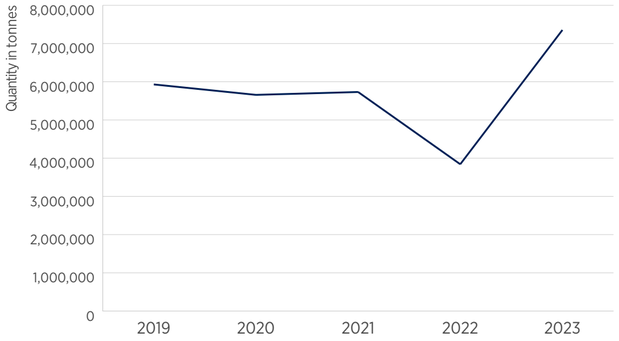


Figure 22 Uptake certified soy by EU27+ end markets 2019–2023, based on data from U.S. Soy-bean Export Council

3 Country reports

EU27+ countries apply various strategies to promote sustainable, deforestation- and conversion-free soy, including credit systems, risk-based approaches, and certified supply chains. National Soy Initiatives support companies and sectors in making responsible sourcing decisions. Since 2019, the use of certified soy has increased across key soy-consuming countries in the region.

3.1 Soy use in the EU27+

Although soy production in EU27+ is modest, the imports of soy are significant. Figure 23 shows the import of soybeans and soybean meal (all converted to soybean meal equivalent) to countries in the EU27+.

The Netherlands is, with almost 6 million tonnes, by far the biggest importer of soybean meal equivalents, corresponding to almost 20% of the total soy imports of EU27+. The fact that the Netherlands is such a key player has led many organizations to emphasize that the country must play a major role in the sustainable transition of the soy sector.

Germany and Spain follow the Netherlands in soy imports, with each country importing approximately 4.5 million tonnes, representing 15% of the EU27+ total imports individually.

Figure 23 shows clearly that while Scandinavian countries and Switzerland are frontrunners in terms of sustainability ambitions, their role in soy imports is rather small. In contrast, some countries that have not had a lot of attention yet for sustainable soy, could make a difference, like Italy, Poland, and Spain.

In the remainder of this chapter, the uptake of certified soy is assessed with the 'soybean meal available for consumption' as the reference value. This is a value that includes both imports and exports of direct and embedded soy and the own soy production, as illustrated in the visual. This value deviates from the import figures since the biggest importers also export substantial volumes of soy.

The reference value also includes the fact that soy can be embedded in other imported products. That means that countries with a large livestock sector import a lot of soy, but also export a lot of embedded soy, lowering their domestic soy footprint. Figure 24 shows the total 'soybean meal available for domestic consumption' for all countries included in this report. Italy, France, Spain, the United Kingdom, and Germany have the highest domestic consumption of soybean meal, which is related to the population size of those countries. In France, Germany, and the United Kingdom, sustainable soy is high on the agenda, and there are national initiatives and commitments to sustainable, deforestation and conversion-free soy. In Italy and Spain, there are no collective initiatives or collective commitments. The next sections report on all individual countries.

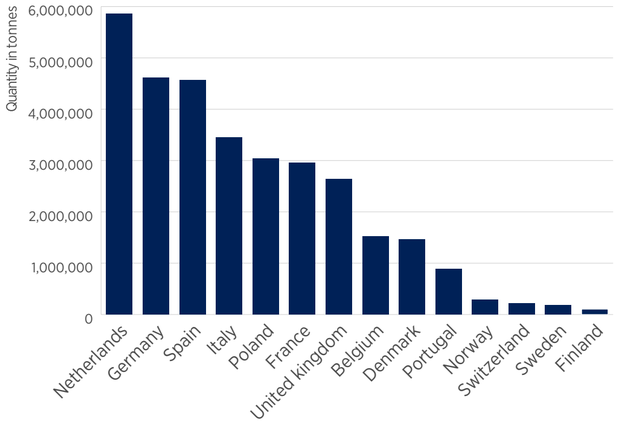


Figure 23 Quantity imported soybean meal equivalent in tonnes in 2023, based on own calculations

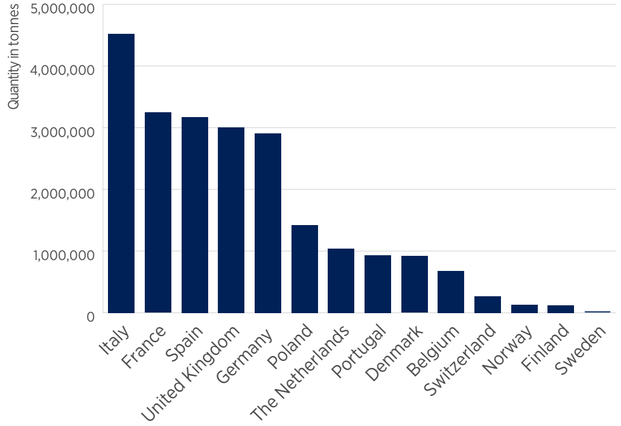


Figure 24 Soybean meal equivalents available for domestic consumption in tonnes in 2023, based on own calculations

Important note

In the previous reports, a distinction was made between FEFAC SSG compliant soy and soy that is certified under a FEFAC SSG compliant standard that also guarantees no deforestation and no conversation of other ecosystems.

The subset of standards that certify deforestation and conversion-free soy was derived from the first Profundo benchmark. These standards are Proterra, RTRS, SFAP, CRS, ISCC, and Donau Soja/Europe Soya. There are different reasons to move to one indicator:

> First, FEFAC upgraded its guidelines in 2021 with a (desired) criterion to also include deforestation and conversion. All but one standard was identified as deforestation and conversion-free.

> Second, in the current context, this second percentage might give the false impression that this soy is deforestation and conversion-free in the physical supply chain whilst most often book & claim certificates have been acquired.

> Third, the soy standards that provide data for the report are basically the six identified by Profundo, so there is little difference between the two percentages.

3.2 Countries

The list of countries included has grown organically over time. Initially, the focus has been on countries with a National Soy Initiative. Later, other important soy consuming countries were added. For each of the countries included, the domestic soybean meal consumption is calculated, by looking at the import and export of direct and embedded soy (EuroStat or ITC data) and own soy production. Based on the domestic soybean meal consumption, the percentage of FEFAC SSG compliant soy is calculated. To directly navigate to the countries, please select the country below. Note, this section does not include 2022 data due to resource constraints.

Calculation soybean meal consumption in a specific country

all volumes are in tonnes

IMPORT of soybeans
(x 0.8 = soybean meal)

IMPORT of soybean meal

IMPORT embedded soy
Beef, pork, poultry, eggs, cheese and other dairy products multiplied with soy conversion factor per product category.

Domestic soybean cultivation
(x 0.8 = soybean meal)

Country

EXPORT of soybeans
(x 0.8 = soybean meal)

EXPORT soybean meal

EXPORT embedded soy
Beef, pork, poultry, eggs, cheese and other dairy products multiplied with soy conversion factor per product category

SOYBEAN MEAL
(available for livestock sector in specific country)

EMBEDDED SOY
(net import or net export)

Domestic soybean meal consumption

X%
of domestic soybean meal consumption FEFAC SSG complaint

=

X% physical supply chain

X% credits

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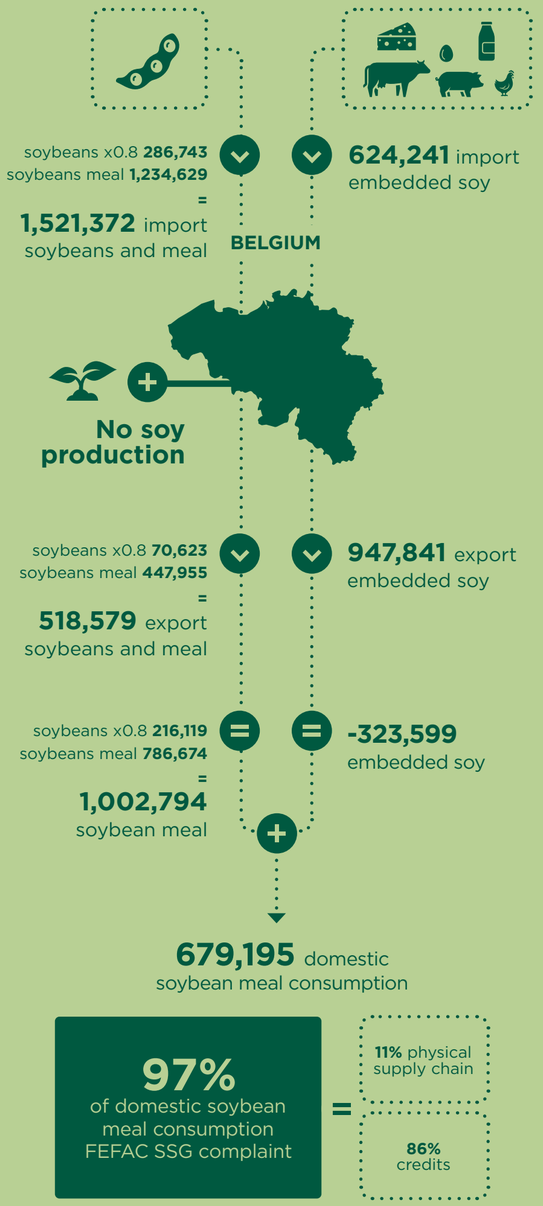


3.1 Belgium

3.1.1 Soy overview 2023

Belgium is a relatively small player when looking at the volumes of imported soy and domestic soybean meal consumption compared to the other countries assessed in the report. In 2023, Belgium imported around 1.5 million tonnes of soybean meal equivalents and exported predominantly poultry and pork. The Belgian Feed Association (BFA) works with the Belgian feed producers and value chain actors to contribute to the sustainable production of soy by acquiring soy credits under different sustainable soy standards.

Overview Soy Trade 2023

With the harbor of Ghent and its central location, Belgium is a relatively large importer of soybean meal. One-third of the soybean meal is exported to other European countries. Belgium has a large livestock sector and exports poultry and pork to other European countries. The domestic soybean meal available for consumption is 679,195 tonnes.

Share of FEFAC SSG compliant soy 2023

BFA acquires RTRS credits (120,000), SFAP credits (131,000), and CRS credits (240,000) on behalf of the feed sector, to cover part of the sector's soybean meal use.

USSEC reported that 75,424 tons of SSAP soy were exported* to the Belgium market in the physical supply chain. RTRS reported that RTRS Credits were adopted by Belgian actors equivalent to a total volume of 202,986 tonnes of soybeans. That means that, in addition to the RTRS Credits acquired by BFA, additional RTRS Credits equivalent to 82,986 tonnes of soy were acquired by other companies. Cefetra reported a total sales of CRS book & claim to the Belgium market, representing 251,581 tonnes of soy. This means that credits representing 11,581 tonnes were acquired by actors other than BFA.

Feed industry

In this report, the total soybean meal for consumption is calculated, but this soybean meal can go to all outlets: food, feed & industry. This text box reports specifically about the feed sector. BFA reported that the compound feed sector used 753,349 tonnes of soy. Jointly, the sector acquired book & claim certificates and RTRS Credits corresponding to 491,000 tonnes of soy. Therefore, 65% of the total soybean meal consumption by the compound feed industry is covered by book & claim certificates and RTRS Credits supporting sustainable soy production. It is worth noting that the feed industry used 1% less soy in 2023 compared to 2021, even though the volume of FEFAC SSG-certified soy increased by 11% during this period. This indicates that the industry is moving toward greater adoption of sustainable soy.

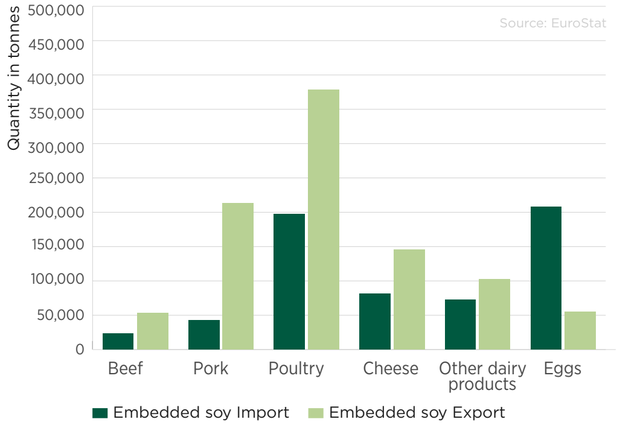
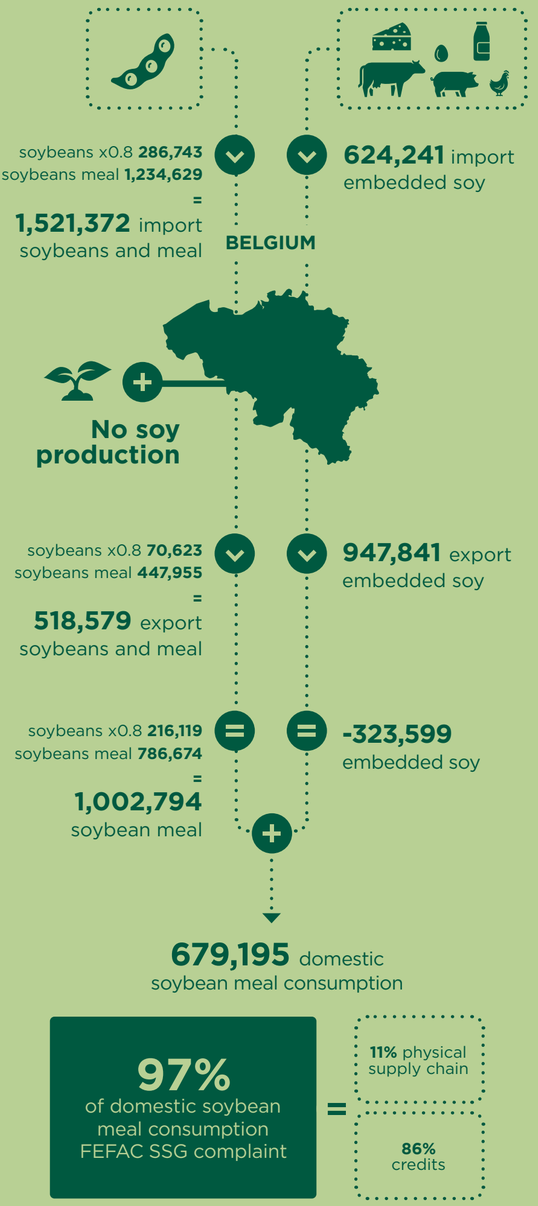


Figure 25 Belgium import and export of embedded soy in 2023

* The country data is determined by the destination that exporters enter in the database when they issue the export certificates.



This results in a share of FEFAC SSG compliant soy of 97%**. Of the total soybean meal for domestic consumption, 86% was covered by a credit system model, and 11% of soy was acquired under a FEFAC SSG compliant standard in the physical supply chain.

3.1.2 Developments towards sustainable soy

The Belgian feed industry is committed to the strategy of acquiring credits supporting the production of responsible soy. Acquiring these credits is organized collectively via BFA for all member feed companies. In addition, the food sector has also consistently acquired RTRS credits. This results in a high uptake of FEFAC SSG compliant soy as can be seen in Figure 26.

Over the period 2019-2023, domestic soybean meal consumption increased by 3%. Figure 26 shows that each year from 2019 until 2021, the full volume of soybean meal for domestic consumption was covered by FEFAC SSG compliant credits. No data was collected for 2022, but this was likely to be similar to other years since the collective approach did not change and RTRS figures show that food companies also have acquired RTRS credits in 2022.

National initiatives

In Belgium, there is no multistakeholder initiative for sustainable soy. The feed association, BFA, is the leading player in the Belgian market, driving the collective approach towards supporting sustainable soy production.

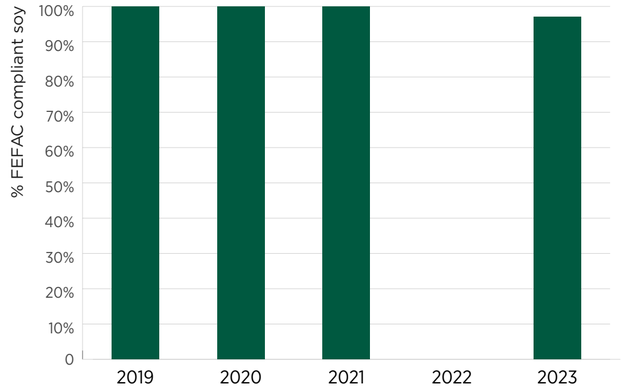
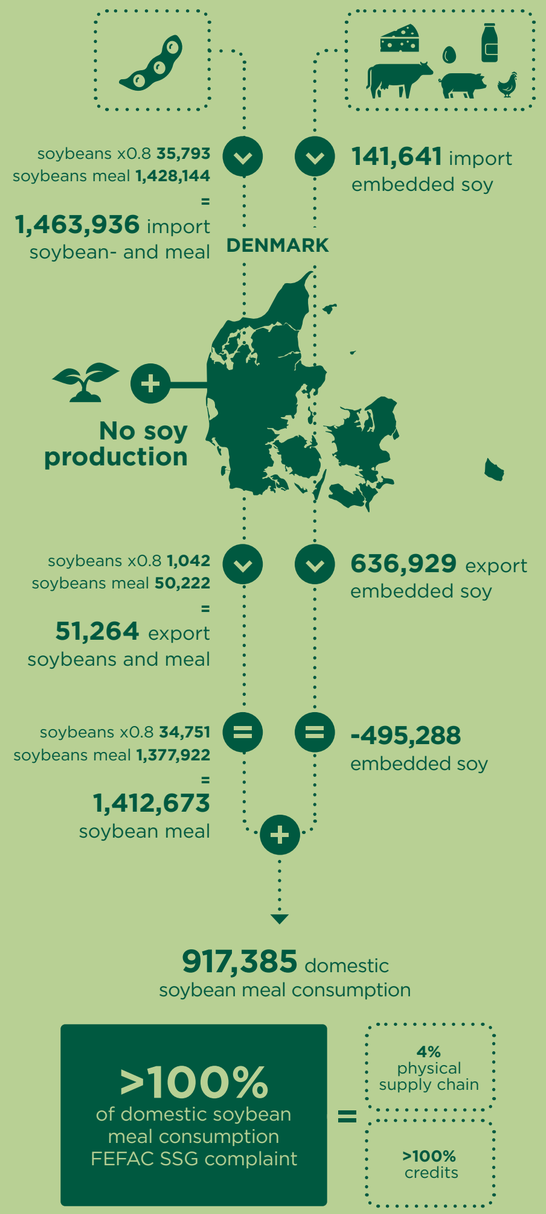


Figure 26 % Domestic soybean meal consumption that is FEFAC SSG compliant in Belgium over 5 years (excl. 2022)

** The calculation is as follows (120,000 + 131,000 + 240,000 + 75,424 + 82,986 + 11,581) / 679,195 = 97%



3.2 Denmark

3.2.1 Soy overview 2023

Slightly smaller than Belgium, Denmark ranks 9th out of the 14 countries assessed in terms of soy imports within the EU27+. It is also number 9 in the list in terms of domestic soybean meal consumption. In 2023, Denmark imported around 1.5 million tonnes of soybean meal and exported embedded soy via pork and cheese to other European countries. Although relatively small in terms of soy footprint, Denmark has a clear ambition for sustainable soy use, which is translated into concrete commitments for the feed sector and the food sector.

Overview Soy Trade

Denmark imported 1.5 million tonnes of soybean meal equivalents and hardly exported any soy to surrounding countries. Denmark exported pork and cheese to other European countries, which comes with a footprint of embedded soy. The domestic soybean meal available for consumption is 917,385 tonnes of soybean meal equivalent.

Share of FEFAC SSG compliant soy

The Danish feed association DAKOFO reported that their members acquired 880,000 tonnes of FEFAC SSG compliant soy in 2023. There is no specification of the exact soy standards nor the chain of custody models under which this soy is certified, but feed companies' acquisition of certified soy is annually audited by their accountants and reported to DAKOFO.

Also, two standards reported on uptake by Danish stakeholders. RTRS reported that Danish actors acquired credits corresponding to a volume of 932,274 tonnes of soy. In addition, USSEC reported that Danish actors acquired 32,712 tonnes of SSAP soy in the physical chain. Since we have no insight into the specification of soy standards by DAKOFO, and aim to avoid double-counting, we use only the RTRS and SSAP volumes. This results in more than 100% responsible soy*. This means that the full footprint is covered by credits, and an additional 4% of soy is sourced under a FEFAC SSG compliant standard in the physical supply chain.

* The calculation is as follows: (932,274 + 32,712) / 917,385 = >100%

Feed industry

In this report, the total soybean meal for consumption is calculated, but this soybean meal can go to all outlets: food, feed & industry. This text box reports specifically about the feed sector. DAKOFO reported that the Danish feed sector uses 1,466,666 tonnes of soybean meal for compound feed and home mixing. Of this total volume, 880,000 tonnes of soybean meal were covered under FEFAC SSG schemes, which was verified by an independent third party. This corresponds to 60% FEFAC SSG compliant soy.

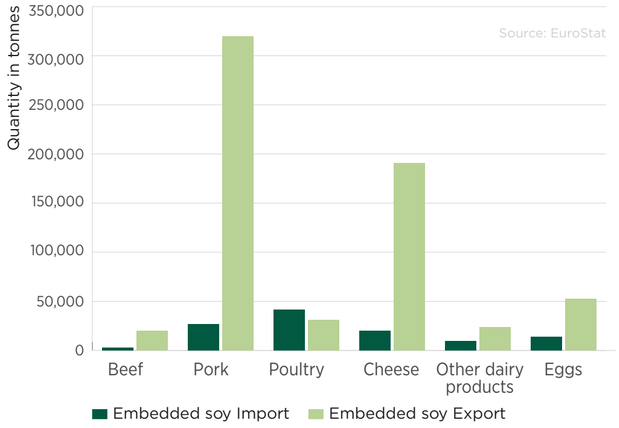
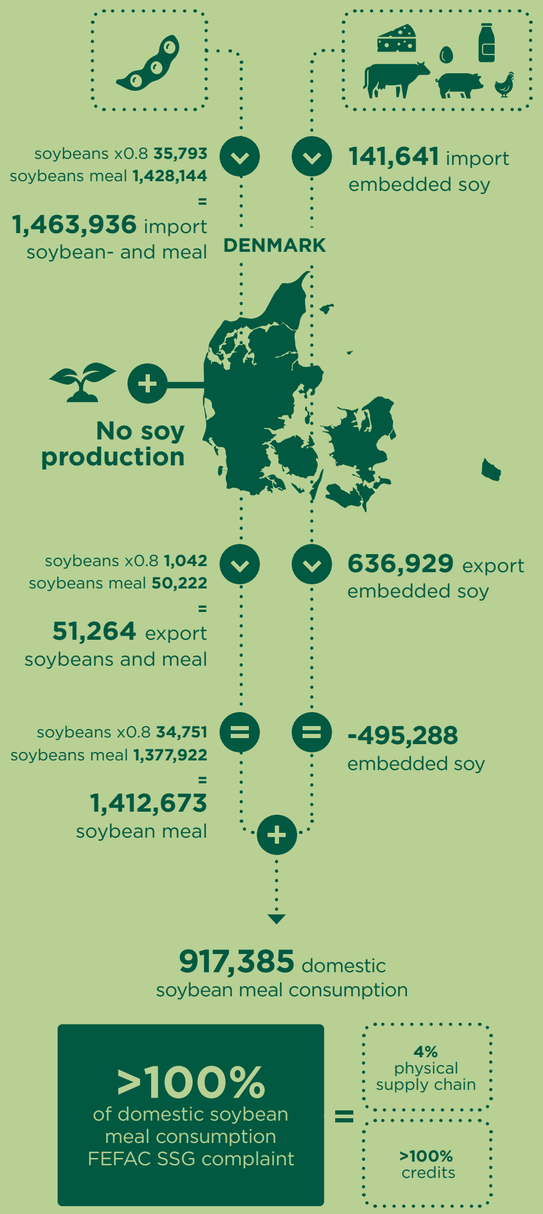


Figure 27 Danish import and export of embedded soy in 2023



3.2.2 Developments towards sustainable soy

Figure 28 shows the success story of sector commitments and multistakeholder cooperation among Danish stakeholders in the soy supply chain. Between 2019 and 2023 and increase of 43% increase in FEFAC SSG compliant soy is observed, while domestic soybean meal consumption decreased by 13%.
In 2019, the members of DAKOFO, the Danish feed association, have committed themselves to a gradual growth path for the uptake of FEFAC SSG compliant soy. They did so in line with the FEFAC Responsible Soy Declaration. This Declaration asks companies to take specific steps in sourcing their soy products in line with the FFAC Soy Sourcing Guidelines. Starting in 2019, the percentage should grow to 100% in 2025. This growth path can be clearly observed in Figure 28. Since food companies from Denmark also acquire substantial amounts of RTRS credits, the Danish soy footprint is increasingly covered by credits or physical certified soy. The year 2023 was the first in which the total domestic soybean meal consumption was covered by credits or physically certified soy.

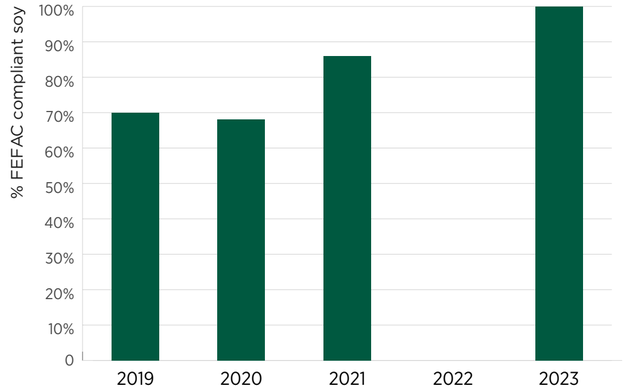


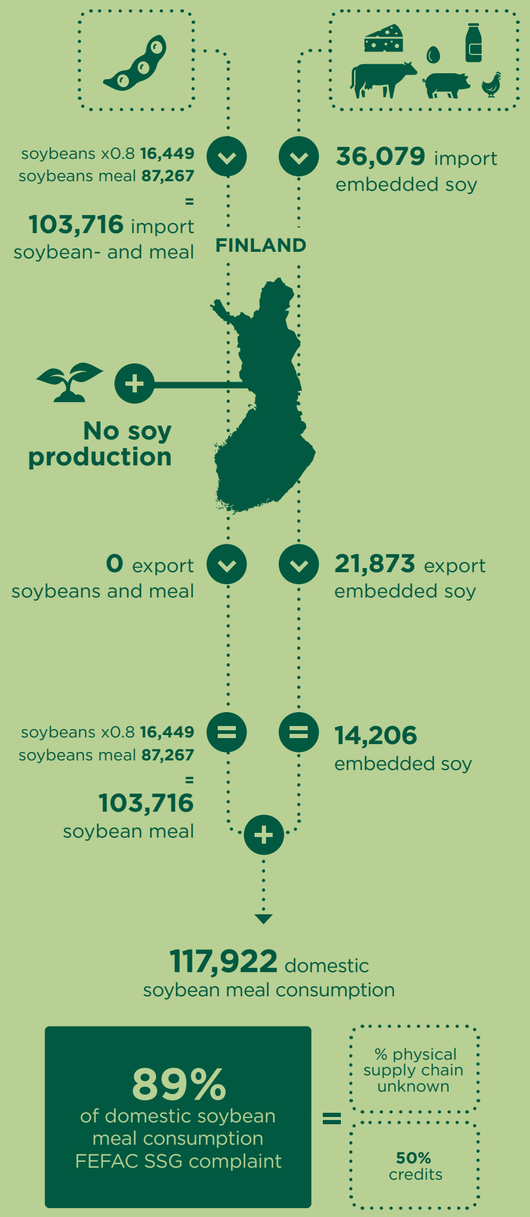
Figure 28 % Domestic soybean meal consumption that is FEFAC SSG compliant in Denmark over 5 years (excl. 2022)

National initiatives

The Danish Alliance for Responsible Soy, managed by Ethical Trade Denmark, brings together relevant Danish actors to jointly work towards the goal that all soy imported to Denmark is produced responsibly, including legally produced, and without deforestation or conversion. All members prepare their action plan and report on an annual basis about progress. A transition from credits, via credits from high-risk areas, towards solutions in the physical supply chain is foreseen.

Note that this transition to physical soy is not part of the FEFAC Responsible Sourcing Declaration, so it is an additional ambition beyond sourcing in line with the FEFAC SSG. In addition, the Danish Alliance for Responsible Soy also aims at looking into the sustainable sourcing of embedded soy, by making members and non-members aware of the significant sustainability risks linked to soy and the significant imprint (embedded) soy can have on, for instance, the carbon footprint of an end product.

In 2022 and 2023, the Danish Alliance for Responsible Soy was also represented in ENSI (European National Soya Initiatives) where it exchanged lessons learned and best practices with other initiatives.



3.3 Finland

3.3.1 Soy overview 2023

Finland is the smallest importer of soy products added in this report and has the second lowest volume of domestic soybean meal consumption. In 2023, Finland imported around 100,000 tonnes of soybean meal equivalents. A collective initiative for sustainable soy existed in 2016, but it ended. Today, Finnish companies in the feed and food sector work individually on sustainable soy.

Overview Soy Trade

Finland imported 87,000 tonnes of soybean meal and 16,000 tonnes of soybeans. The country did not export any soy products. The country exports a small quantities of soy embedded in pork and eggs, but is overall an importer of animal-based products and hence of embedded soy.
The soybean meal available for domestic consumption is 117,922 tonnes.

Share of FEFAC SSG compliant soy

The Finnish feed sector is small. The Finnish feed association reported that 2 of its 3 member companies source soy for their feed solutions meant for the poultry and pork sector.
They acquire 52,000 tonnes of soybean meal equivalent.
These two companies source 100% FEFAC SSG soy, however, it is not clear under which standard or chain of custody model.

RTRS reported that Finnish food companies, different from the two feed companies mentioned above, acquired RTRS Credits equivalent to a volume of 52,870 tonnes of soy.

That results in a total uptake of 89% FEFAC SSG compliant soy*, of which at least 50% is covered by RTRS credits.

Feed industry

The feed association reported that its members buy 52,000 tonnes of soy, which is all sourced in line with the FEFAC SSG.

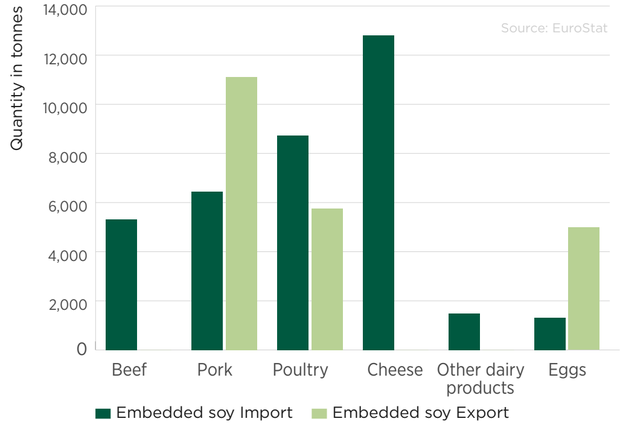
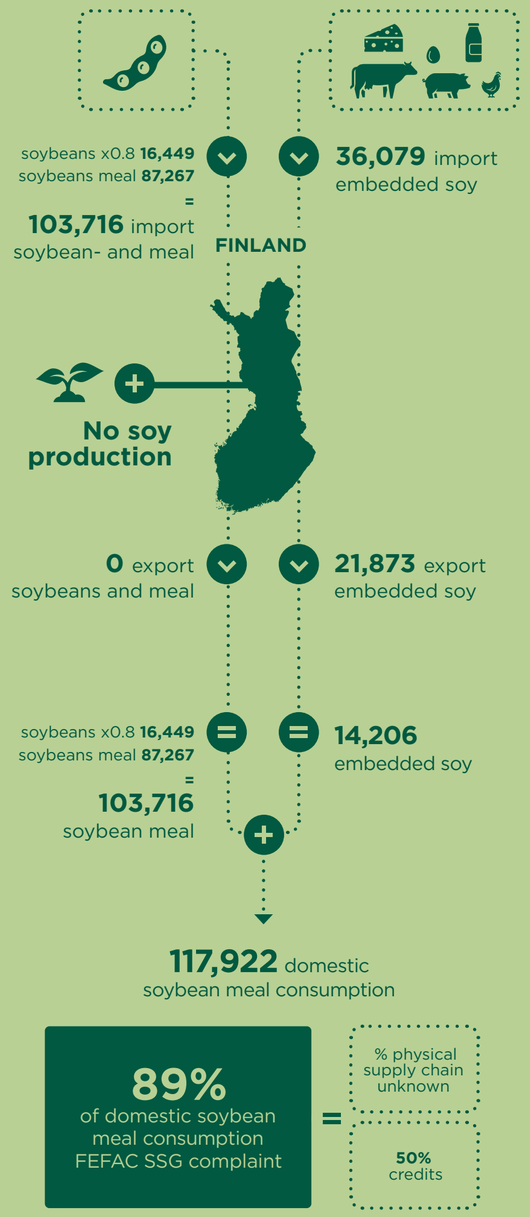


Figure 29 Finland import and export of embedded soy in 2023



3.3.2 Developments towards sustainable soy

Figure 30 shows the % FEFAC SSG compliant soy in Finland over the period 2019-2023. Note that no 2022 data was collected. Finland is a small country in terms of soy consumption and shows a decrease of soybean meal consumption between 2019 and 2023 of 32%. As soybean meal consumption is low, individual companies can significantly influence the national outcome. In addition, the data is incomplete for 2021. That being said, a tendency to use less soybean meal can be observed. In 2019, feed companies reported using 110,000 tonnes of soybean meal. In 2023, this was only 52,000, a halving in only 5 years. In addition, the uptake of RTRS credits by downstream players varied significantly over time*. In 2022, Kesko, a major retailer in Finland, strengthened its soy sourcing requirements, which might change have had an influence on the increased uptake of FEFAC SSG compliant soy in 2023.

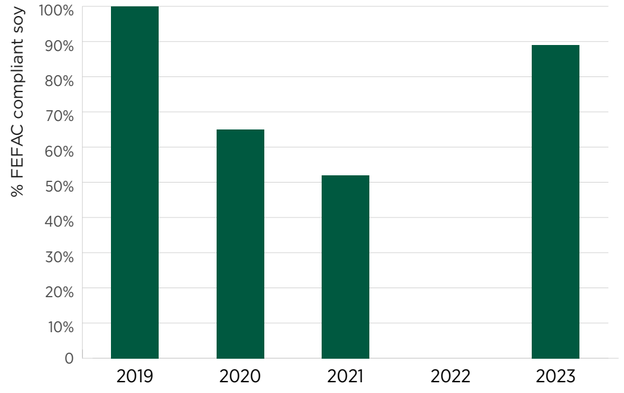
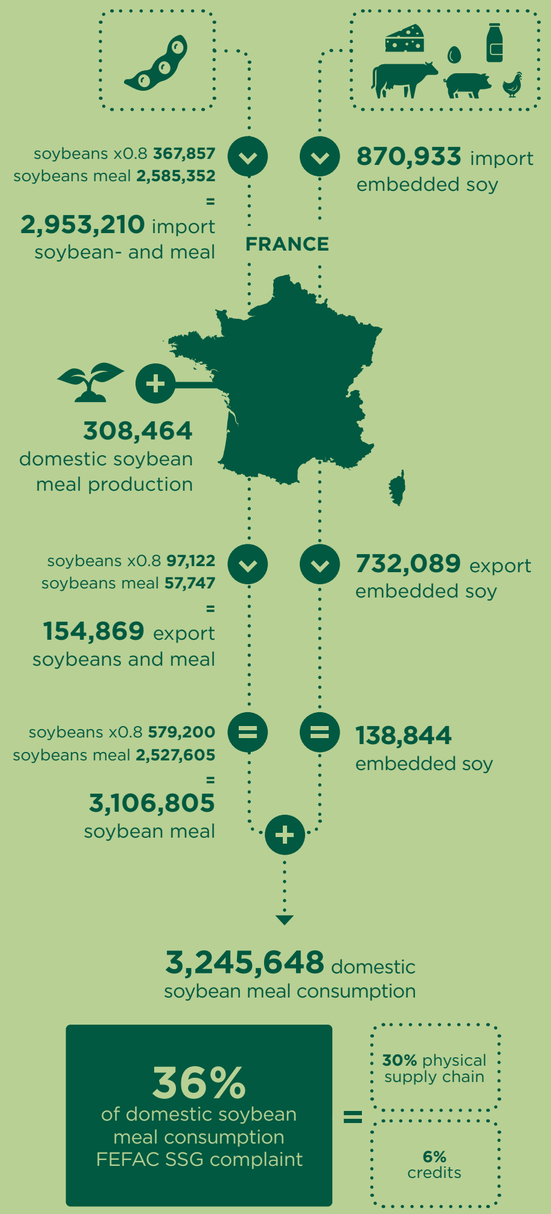


Figure 30 % Domestic soybean meal consumption that is FEFAC SSG compliant in Finland over 5 years (excl. 2022)

* The calculation is as follows 52,000 + 52,870 / 117,922 tonnes

National initiatives

The Finnish Soy Commitment Group, formed in 2016 by companies including Kesko, HKScan, Arla Finland, and Unilever Finland, in partnership with WWF Finland, aimed to ensure that all soy used in Finnish supply chains was responsibly sourced by 2020. This commitment focused on using certified soy, mainly from the Round Table on Responsible Soy (RTRS) or ProTerra standards. Since 2020, companies have worked on sustainable soy individually. The data in the report seems to suggest that the collective approach resulted in a higher uptake of sustainable soy.



3.4 France

3.4.1 Soy overview 2023

Although France is with 3 million tonnes, ranked 6th in terms of soy imports, it has the second highest domestic soybean meal consumption of all countries included in the report. In France, Duralim is the platform that works on traceable and deforestation-free soy using a risk-based approach. For the high-risk soy, there is a commitment to sourcing soy under the FEFAC SSG.

Overview Soy Trade

Around 3 million tonnes of soybean meal equivalents were imported in 2023, of which only 154,000 tonnes were exported to other countries. France is also one of the countries in the EU27+ with a significant own soy production. In 2023, 308,464 tonnes of soy were produced in France. Embedded soy is especially imported via poultry and eggs. Taking all these volumes together, the soybean meal available for domestic consumption is 3,245,648 tonnes.

Share of FEFAC SSG compliant soy

The French feed association Eurofac reported that its members used 721,667 tonnes of FEFAC SSG compliant soy in 2023. This soy is all sourced from Latin America. Eurofac collects information about the traceability level (mass balance, segregation, credits) but does not ask further details about specific schemes. In addition, the association reported the use of 100,000 tonnes of French soy and additional volumes of non-GMO and organic soy. These volumes are not included in the calculation.

USSEC reported that French actors acquired for 139,364 tonnes of SSAP soy in the physical chain. RTRS reported that French actors acquired RTRS credits corresponding to 197,135 tonnes of soy. Cefetra reported that French actors acquired credits covering 7,246 tonnes of soy. We assume that the RTRS and Cefetra volumes are already part of the volume reported by Eurofac. This means that 36% was FEFAC SSG compliant*.
6% of the total soybean meal available for national consumption was covered by Book & Claim credits, and 30% was FEFAC SSG compliant in the physical supply chain.

* The calculation is as follows: 139,364 + 721,667 / 3,245,648

Feed industry

In this report, the total soybean meal for consumption is calculated, but this soybean meal can go to all outlets: food, feed & industry. This text box reports specifically about the feed sector. Eurofac, representing both the feed industries (SNIA) and cooperatives (La Coopération Agricole Nutrition Animale) reported that its members use 2,375,000 tonnes of soybean meal, of which 721,667 tonnes are FEFAC SSG compliant. This corresponds to 30% of FEFAC SSG compliant soybean meal.

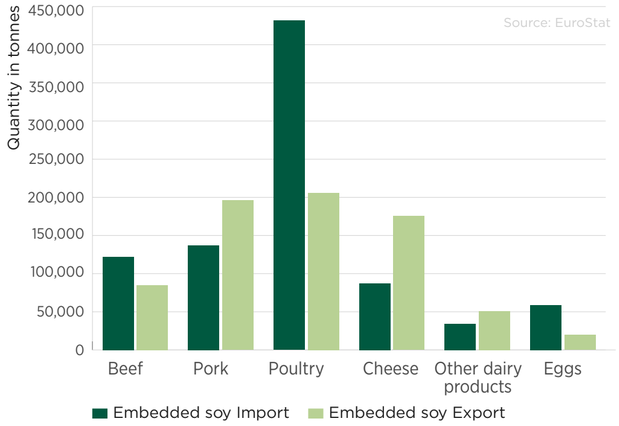
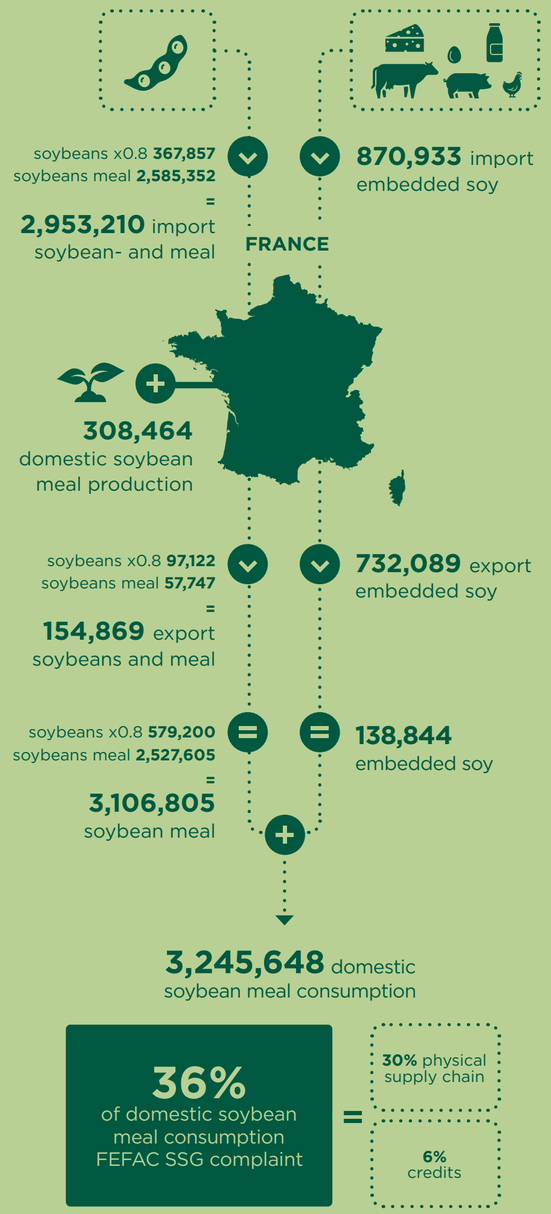


Figure 31 French import and export of embedded soy in 2023



3.4.2 Developments towards sustainable soy

Over the period 2019-2023, domestic soybean meal consumption decreased by 15%. Figure 32 shows the % FEFAC compliant soy in France over the period 2019-2023. Note that no 2022 data was collected. The uptake of FEFAC SSG compliant soy increased in 2020 compared to 2019, slightly declined again in 2021, and was again slightly lower in 2023. Changing reporting protocols may have contributed to the apparent decline.In 2019, the feed industry reported a use of 1,602,000 tonnes of FEFAC SSG compliant soy. This increased to 1,926,224 in 2020 and remained 1,910,000 tonnes in 2021. In 2023, the volume was a lot lower, with 721,667 tonnes of FEFAC SSG compliant soy. In addition, food companies have consistently acquired RTRS credits. In 2019, 132,451 tonnes were covered by credits. In 2020, 136,790 tonnes. In 2021, 83,720 tonnes, and increased again to 197,135 tonnes in 2023. In 2023, it was the first time that uptake of SSAP and Cefetra CRS credits was reported.

In France, there are different commitments to deforestation and conversion-free soy sourcing via Duralim and the Soy Manifesto. The fact that uptake remains behind is probably a result of a difference in approach. In France, actors apply a risk-based strategy, which means that only soy from South America must be sourced in line with the FEFAC SSG and that soy from other origins is automatically in line with Duralim's commitment.

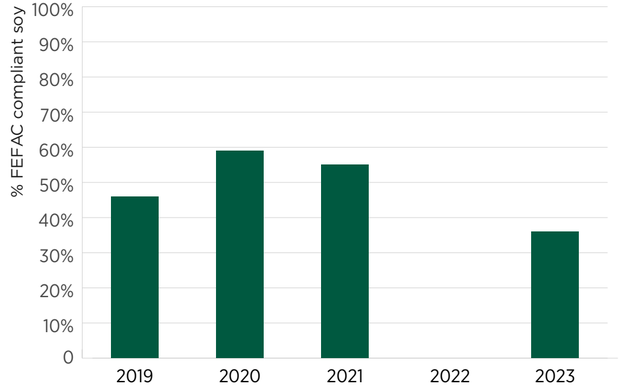


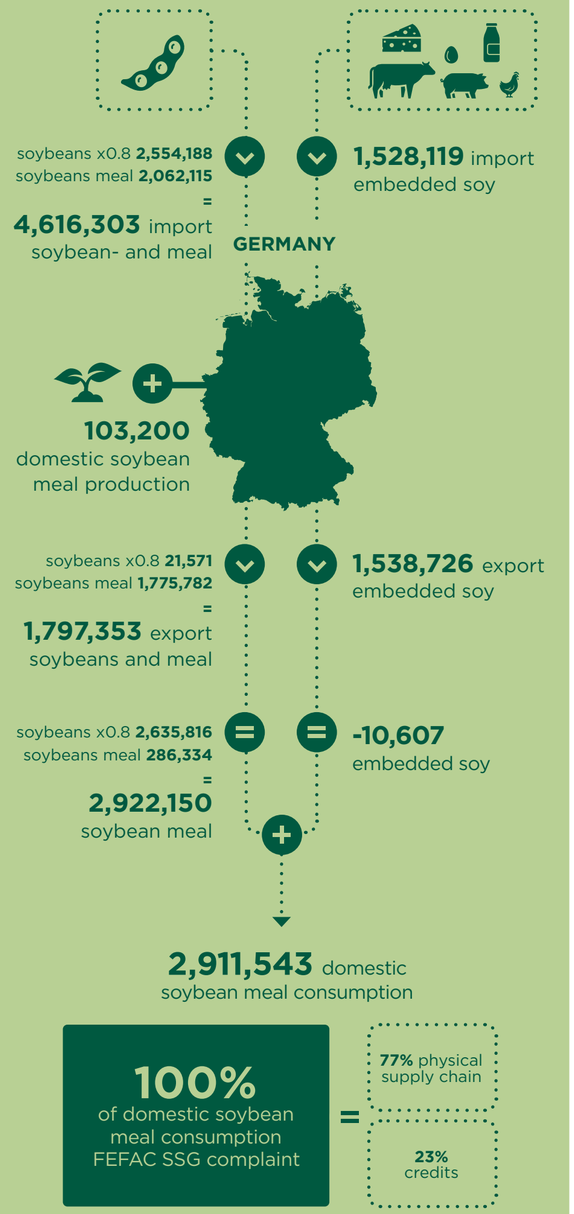
Figure 32 % Domestic soybean meal consumption that is FEFAC SSG compliant in France over 5 years (excl. 2022)

National initiatives

Launched in 2016, Duralim is the French platform for sustainable feed. In 2018, it expressed its commitment to achieving 100% deforestation-free supply in 2025. The platform has more than 100 members, including importers, feed manufacturers, and downstream companies (food sector).[73]

In 2022, 59 compound feed industries committed to a Soy Manifesto[74], aiming for 100% of the soy used in feed mill by 2025 to be sourced with zero deforestation and conversion guarantees. This commitment relies on low-risk origins (countries outside South America) and compliance with the FEFAC SSG for South American countries. This approach has two intermediate targets: 50% of the volumes used by the signatories meeting these guarantees by 2023 and 75% by 2024. According to Duralim, 59% of the soy used by the compound feed industry met the Manifesto's zero-deforestation and conversion guarantees in 2023.

In 2022 and 2023, Duralim focused on updating its Soy Observatory. This is an initiative to monitor the risk of deforestation linked to soy imports to France. Duralim was also represented in ENSI (European National Soya Initiatives).



3.5 Germany

3.5.1 Soy overview 2023

Following the Netherlands, Germany ranks as the second-largest soy importer in Europe. In 2023, Germany imported 4.6 million tonnes of soybean meal equivalents of which a substantial part of 1.8 million tonnes were exported to other countries. The country also trades in various livestock products with an embedded soy footprint. Altogether, the country's domestic soybean meal consumption ranks 4th among all countries reported. The Sustainable Protein Feed (Forum Nachhaltigere Eiweißfuttermittel, FONEI) is the national platform to discuss sustainability questions.

Overview Soy Trade

Germany imports a relatively large volume of soybeans, which are mainly crushed in Hamburg with a proportion then exported as soybean meal to other European countries. Germany has a large livestock sector and is importing and exporting vast volumes of animal-based products. The total soybean meal available for consumption in Germany is 2,911,543 tonnes.

Share of FEFAC SSG compliant soy

The German Feed Association DVT estimated that 579,461 tonnes of soy were FEFAC SSG compliant. For 69%, 399,828 tonnes, of this volume, a specification under a specific standard is given. The standards under which soy is sourced are ADM Responsible Soy Standard, Bunge's Pro-S, Cefetra's CRS, Donau Soja/Europe Soya, Proterra, and RTRS. For competition reasons, the volumes per standard are not given.

RTRS reported that 350,400 tonnes of RTR Credits were acquired by German actors and 52,000 tonnes of RTRS Mass Balance soy in the physical supply chain. USSEC reported that the German market acquired 2,200,501 tonnes of SSAP soy in the physical supply chain. Cefetra reported that German actors acquired CRS Book & Claim certificates corresponding to 306,099 tonnes of soy. To avoid double-counting, we use the figures by the standards. This leads to a total of 100% of

* The calculation is as follows: (350,400 + 52,000+ 2,200,501+ 306,099) / 2,911,543

Contribution of the feed industry

In this report, the total soybean meal for consumption is calculated, but this soybean meal can go to all outlets: food, feed & industry. This text box reports specifically about the feed sector. DVT estimatedd that its members used 1,144,238 tonnes of soybean meal, of which 579,461 were FEFAC SSG compliant (partly specified). This corresponds to 51% of all soy use.

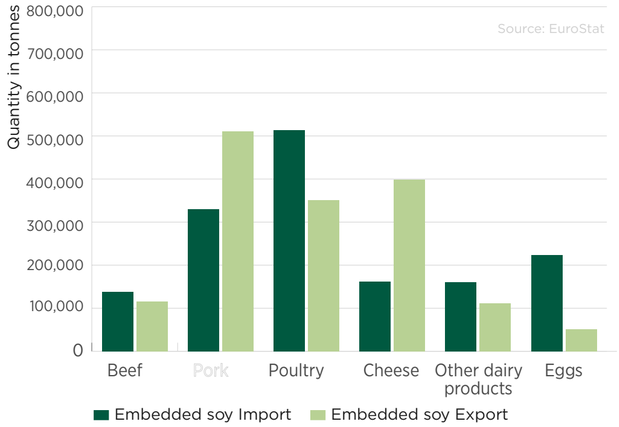
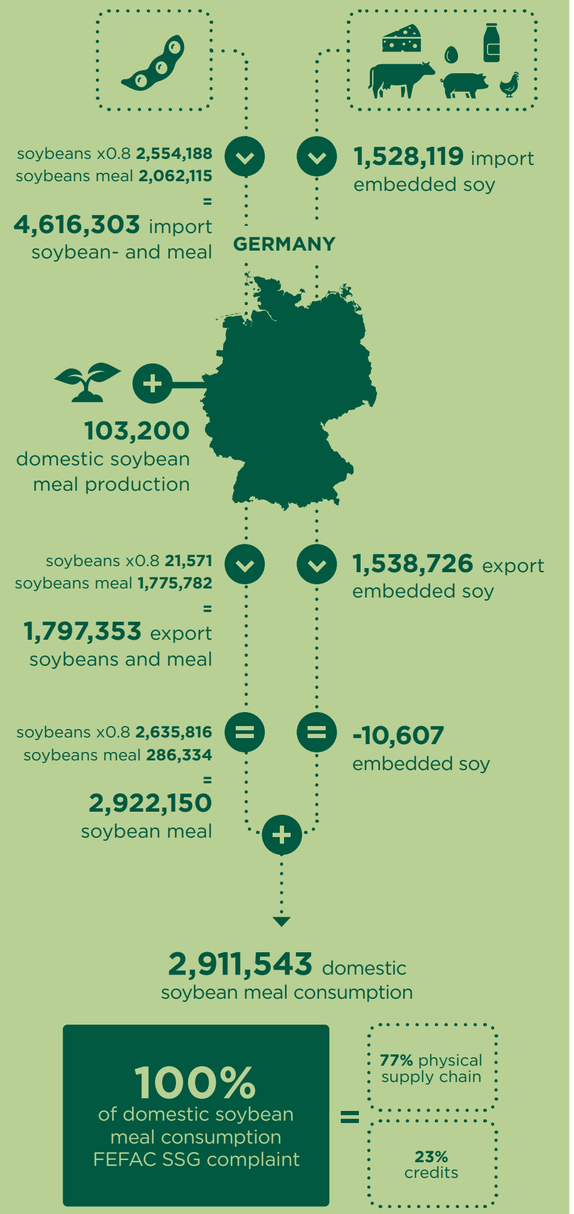


Figure 33 German import and export of embedded soy in 2023



the soy being FEFAC SSG compliant*. Of the total soybean meal available for consumption, 23% was acquired via RTRS Credits and book & claim models, and 77% via physical supply chain models.

3.5.2 Developments towards sustainable soy

Over the period 2019-2023, domestic soybean meal consumption in Germany decreased by 18%. Figure 34 shows the % FEFAC SSG compliant soy in Germany over the period 2019-2023. Note that no 2022 data was collected. The uptake of certified soy has gone up consistently over the years, and in 2023 reached 100%. A couple of underlying trends can be observed.

First, the total volume of FEFAC SSG compliant soy acquired by the feed sector has gone down, from 1.511.982 tonnes in 2019 to 579,461 tonnes in 2023. On the other hand, the uptake of RTRS credits and RTRS mass balance soy by German actors has grown from 107,485 tonnes in 2019 to 402,400 tonnes in 2023, which is almost four times as much. In addition, the quality of the information has increased significantly over the years, where there is now a more complete insight into the different certification schemes under which soy is certified.

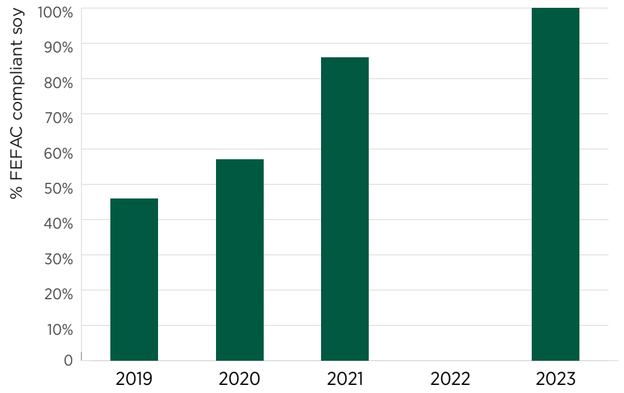


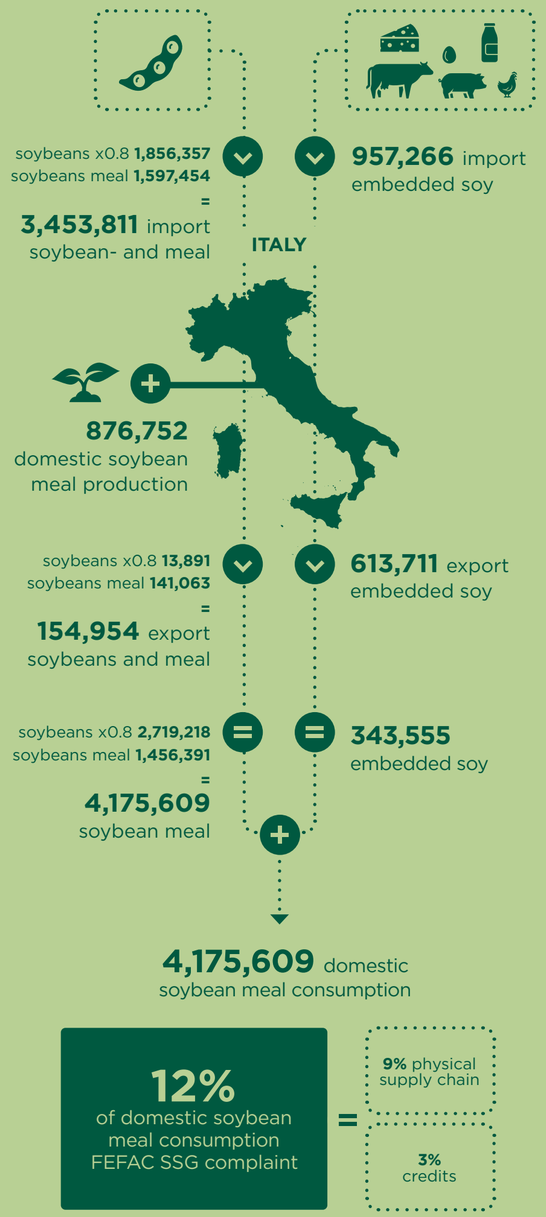
Figure 34 % Domestic soybean meal consumption that is FEFAC SSG compliant in Germany over 5 years (excl. 2022)

It can be expected that the uptake of FEFAC SSG compliant soy remains high also beyond 2023, since from 1 January 2024 onwards, German feed companies source soy via the new QS SoyPlus module[75]. This QS module builds upon the FEFAC SSG and approves different soy standards and different chain of custody models. The credit model is accepted until the end of 2025.

National initiatives

In 2014, the German Federal Agency for Agriculture and Food (BMEL), initiated the Forum for Sustainable Protein Feed (Forum Nachhaltigere Eiweißfuttermittel, FONEI)[76]. It is a multistakeholder platform, which includes around 51 companies, associations, organizations, scientific institutions, and authorities from the fields of agriculture, environmental protection, consulting, feed and food production, and trade[77]. The Forum advocates for an increase in local legumes used in feed and for using certified sustainable soy. However, FONEI has not collectively established any specific, time-bound commitments for sustainable. Deforestation and conversion-free soy, and no monitoring mechanisms are in place.

In 2022 and 2023, Germany was also represented in ENSI (European National Soya Initiatives).



3.6 Italy

3.6.1 Soy overview 2023

Italy is the fourth largest importer of soy products in the EU27+. In 2023, the country imported 3.5 million tonnes of soybean meal equivalents, of which hardly anything was exported to other countries. Italy is, with 877,752 tonnes, also the largest soybean producer in the European Union. This plays a key role in the domestic soybean meal availability, which is with more than 4,5 million tonnes the largest of all reported countries. Italy does not have a collective initiative for sustainable soy.

Overview Soy Trade

Italy imports a relatively large volume of soybeans and soybean meal. It exports only 154,954 tonnes of soybean meal equivalents, which is less than 1% of its soy imports. With 876,752 tonnes of soybean production, it is the biggest soy producer in the European Union. Embedded soy is imported via pork and exported via poultry and cheese. Taking all these soy flows together, the total soybean meal for consumption in Italy is 4,519,164 tonnes.

Share of FEFAC SSG compliant soy

In 2023, the feed association has not reported the volume of FEFAC SSG compliant soy.

RTRS reported that 47,090 tonnes of certified soy were acquired by Italian actors via the mass balance model, and 115,656 RTRS Credits were adopted. USSEC reported that the Italian market acquired 382,860 tonnes of SSAP soy in the physical supply chain.

With a total soybean meal for consumption of 4,519,164 tonnes, 12% of the domestic soybean meal consumption is FEFAC SSG compliant*, of which 3% via RTRS Credits and 9% via physical supply chain solutions.

Feed industry

No additional insights from the Italian feed industry have been received to include in this report.

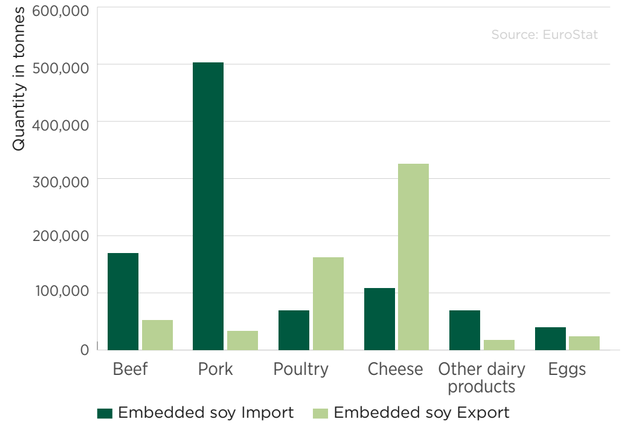
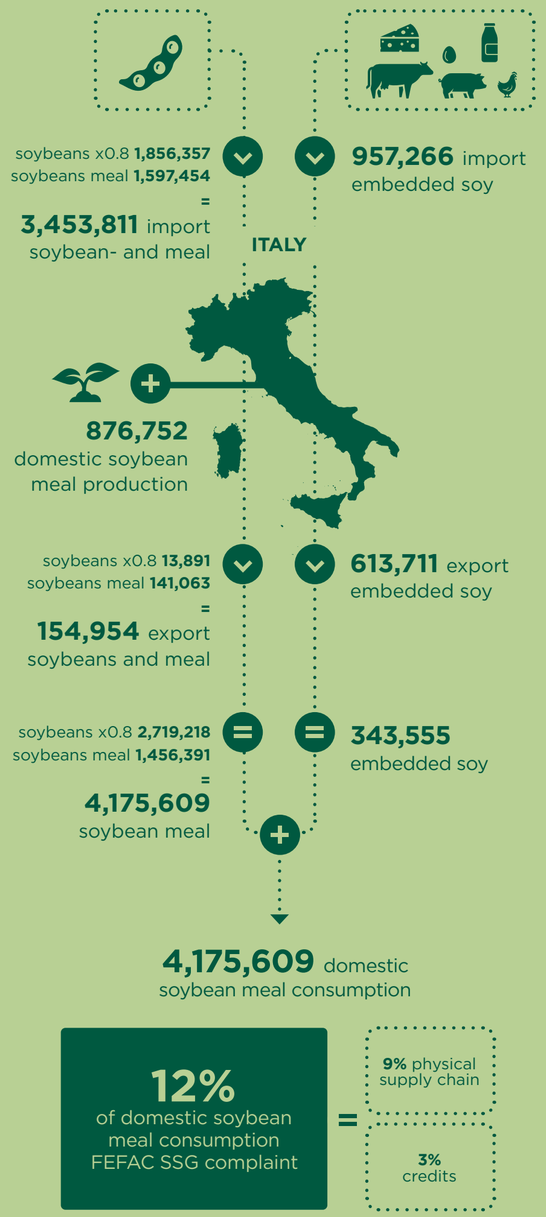


Figure 35 Italian import and export of embedded soy in 2023

* The calculation is as follows: (47,090 + 115,656 + 382,860) / 4,519,164



3.6.2 Developments towards sustainable soy

Figure 36 shows the % FEFAC SSG compliant soy in Italy over the period 2019-2023. Note that no 2022 data was collected. An upward trend can be observed.

After an increase in the uptake of responsible soy from 2019 to 2021, the uptake is lower in 2023. It is important to note that no data were obtained from the feed association in 2023, which significantly distorts the overall picture. The data collection in Italy has always been challenging due to a very fragmented feed sector, with many small feed mills.

Analysing the developments in more detail, it can be observed that between 2019 and 2023, domestic soybean meal consumption decreased slightly by 1%. The reported volume of FEFAC SSG complaint soy acquired by the feed sector has gone up from 1,165,973 in 2019 to 1,276,009 in 2022, although in the first years, it was not specified under which standards the volumes were acquired. Over time, the volume of SSAP soy in the Italian market has gone up, and although data from CSQA[78] was not received for most years, it is also likely that CSQA plays a big role in the Italian market for Italian soy. Therefore, the uptake of FEFAC SSG compliant soy might be underestimated.

The acquisition of RTRS credits started with 89,500 tonnes covered by credits in 2019 and has gone down until being zero in 2021. In 2023, however, 162.746 tonnes of RTRS credits and mass balance soy were sourced by Italian actors, which is a steep increase compared to the previous years.

National initiatives

Italy does not have a multistakeholder initiative focused on the import of sustainable soy. Nor are there collective commitments to sourcing sustainable, deforestation and conversion-free soy. However, the country has a lot of its own soy production, which is happening in line with European Union Regulation, already guaranteeing a minimal level of sustainability. Local organizations, such as Soia Italia, focus on sustainable, non-GMO soy production in Italy.

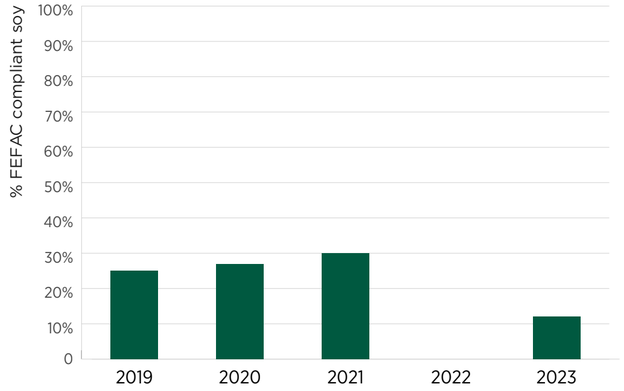
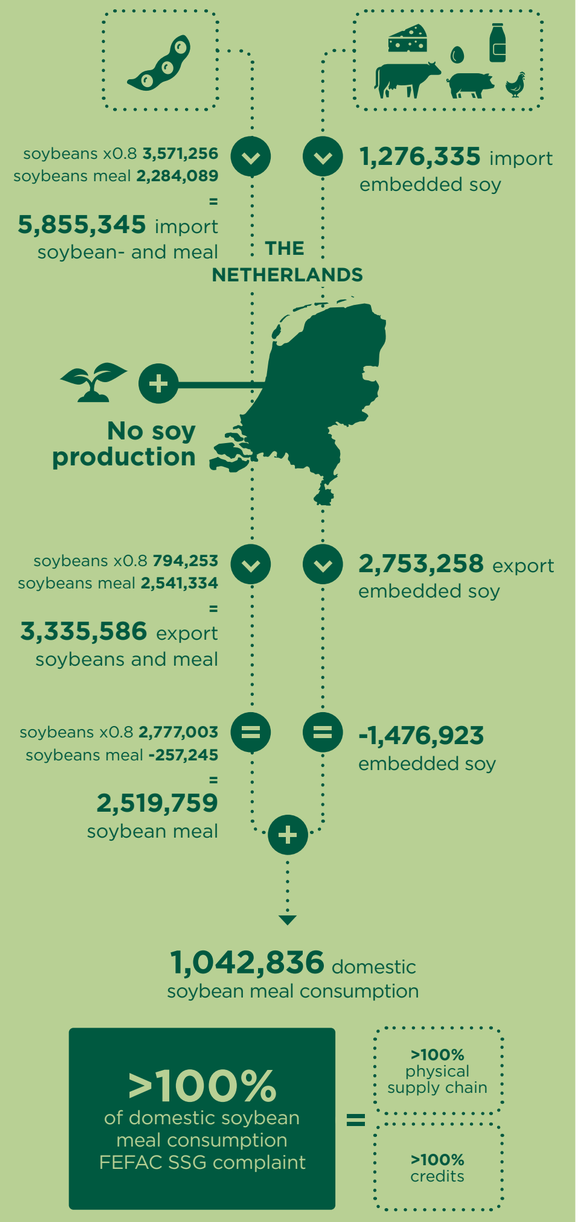


Figure 36 % Domestic soybean meal consumption that is FEFAC SSG mpliant in Italy over 5 years (excl. 2022)



3.7 Netherlands

3.7.1 Soy overview 2023

The Netherlands is the largest importer of soy within the EU27+. In 2023, it imported a total of 5.85 million tonnes, which is 1.6% of global soy production. The country also exports significant volumes of soybean meal equivalents, both directly and embedded in animal-based products. As a result, its domestic soybean meal consumption is relatively modest, placing it 7th among all countries covered in the report. The Netherlands has consistently been a leader in promoting sustainable soy imports. Different multistakeholder initiatives have existed since the early 2000s, aimed at a collective approach towards responsible soy. This has especially resulted in a continuous and consistent acquisition of RTRS credits.

Overview Soy Trade

In 2023, the Netherlands imported 5.9 million tonnes of soybean meal equivalent, of which 3.3 million tonnes were exported to other countries. The Netherlands has a very large and intensive livestock sector, making it deeply involved in the trade of animal-based products. Due to the significant export of soy and embedded soy, the total soybean meal consumption, at 1,042,836 tonnes, is relatively modest compared to the total soy imports.

Share of FEFAC SSG compliant soy

The Dutch feed association Nevedi reported that its members acquired RTRS Credits for an equivalent of 1,078,566 tonnes of soy in 2023. RTRS reported a total acquisition of credits for 1,888,317 tonnes of soy by Dutch organizations. This indicates that other Dutch companies acquired credits for an additional 809,751 tonnes.

USSEC reported that Dutch actors acquired 1,465,489 tonnes of SSAP soy in the physical supply chain. Cefetra reported that Dutch actors bought credits corresponding to 748,109 tonnes of CRS-certified soy. This means that more than 100%* of the domestic soy footprint was FEFAC SSG compliant, either via credits or physical solutions.

* The calculation is as follows: 4,101,915 / 1,042,836

Feed industry

In this report, the total soybean meal for consumption is calculated, but this soybean meal can go to all outlets: food, feed & industry. This text box reports specifically about the feed sector. Nevedi reported the uptake of RTRS Credits covering 1,078,566 tonnes of soy, but did not provide further insights into the total soybean meal usage by its members. In the previous years, the soybean meal usage in the Dutch feed industry has varied between 1.5 and 1.7 million tonnes. Using this range as an estimation, the feed industry covered between 63% and 71,9% with RTRS credits.

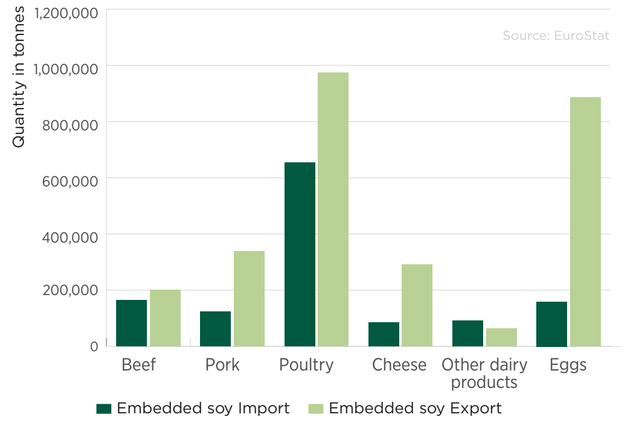
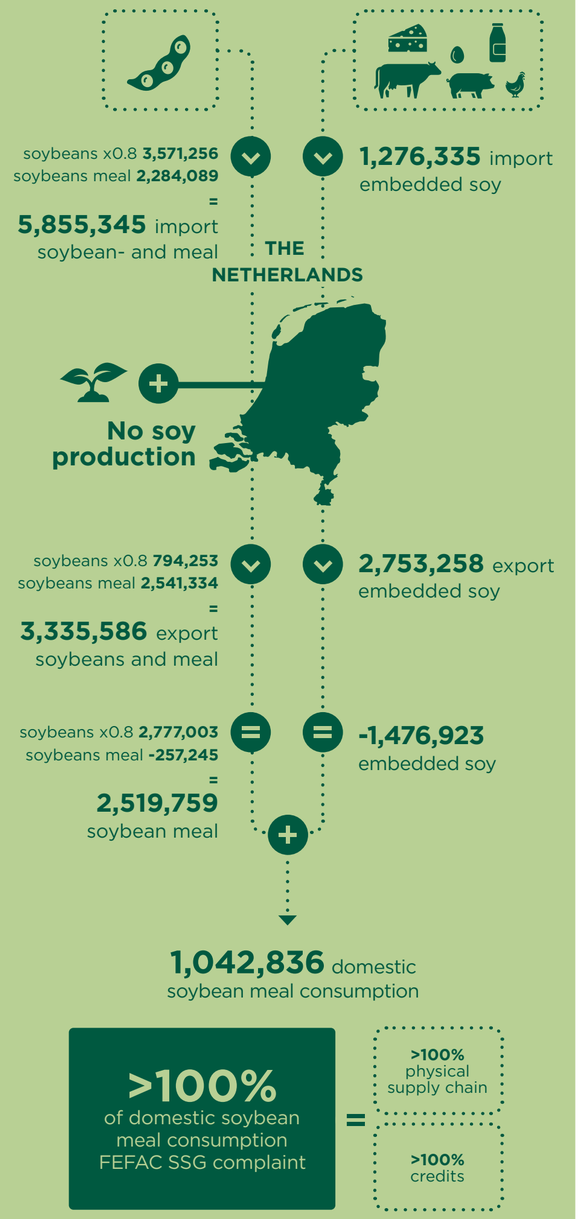


Figure 37 Dutch import and export of embedded soy in 2023



3.7.2 Developments towards sustainable soy

Figure 38 shows the percentage of FEFAC SSG compliant soy in the Netherlands over the period 2019–2023. Note that no data were collected for 2022. The uptake of FEFAC SSG compliant soy has been consistently above 100% throughout the years. The Netherlands has, throughout all years since RTRS credits have been sold until 2023, been the number one buyer of credits.

As the main gateway for soy into Europe, the Netherlands has consistently been in the spotlight for soy sustainability. The Netherlands has been at the forefront of many developments related to soy sustainability and has clear commitments in the area of sustainable, deforestation and conversion-free soy. The feed industry, for example committed to sourcing soy meant for the dairy industry in line with the RTRS standard, and to source soy meant for other Dutch markets, and export in line with the FEFAC Soy Sourcing Guidelines. These commitments have been especially met through the acquisition of credits. One could argue that the pioneering role has also led to a case of the 'paradox of the early mover.' As in Belgium, few steps have been taken toward integrating sustainable soy into the physical supply chain.

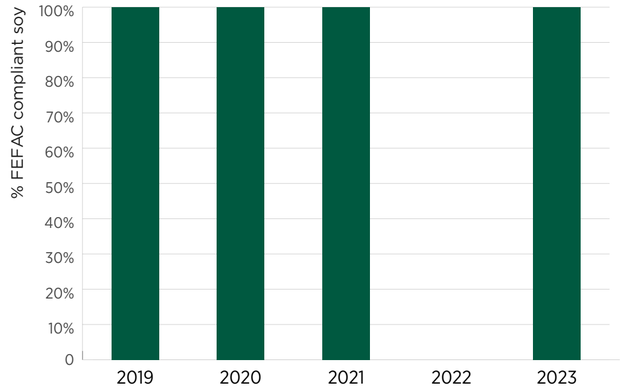
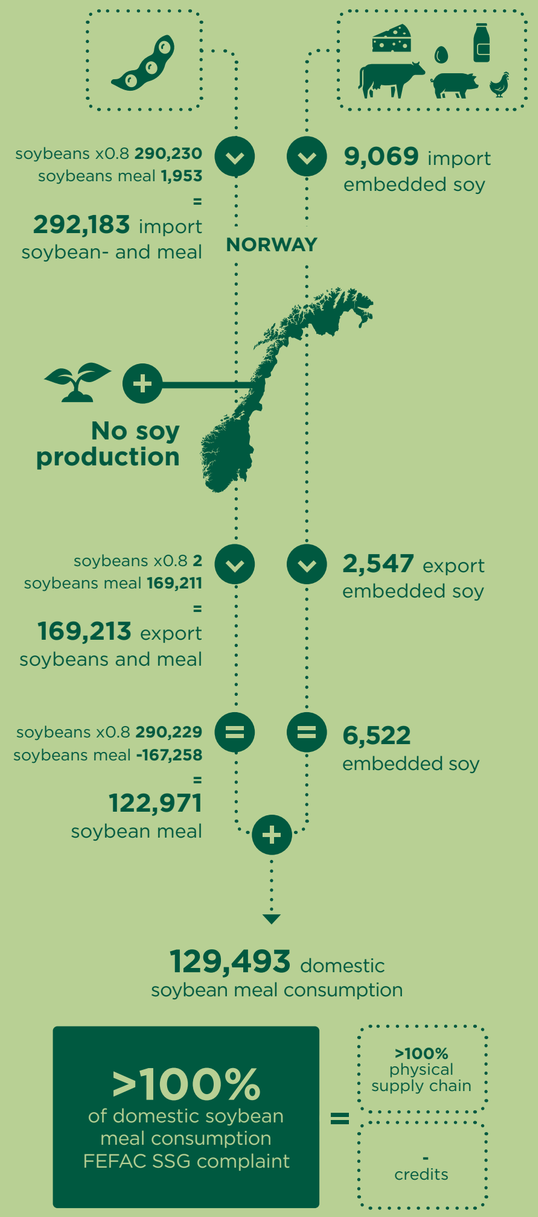


Figure 38 % Domestic soybean meal consumption that is FEFAC SSG compliant in the Netherlands over 5 years (excl. 2022)

National initiatives

The Dutch Soy Platform (DSP) was established in 2019 but builds upon more than two decades of collective action in the area of responsible soy in the Netherlands. Dutch actors have played a vital role in the establishment of the Basel criteria for Responsible Soy, the RTRS and ProTerra standard, the benchmark of soy standards (Profundo benchmark), the initiation of the European Soy Monitor, and the development of action in the landscapes.

DSP is convened by IUCN NL and consists of a broad variety of Dutch actors, including traders, NGOs, retailers, and the government. Their joint ambition is 100% conversion-free, responsible soy in all areas of the Dutch value chain, which includes consumption, processing, and trade, and have a positive impact on nature and farmers in producing areas. In 2022, joint monitoring on progress was organized, yet no public reporting has been released.In 2022 and 2023, the Netherlands was also represented in ENSI (European National Soya Initiatives).



3.8 Norway

3.8.1 Soy overview 2023

Norway has a relatively small soy footprint. The country ranks 3rd lowest in imports, when looking at the fourteen countries included in this report. Only Finland and Sweden imported less soy in 2023. In addition, Norway's domestic soybean meal consumption is ranked 4th last in the list. In 2023, Norway imported more than 292,000 tonnes of soybean meal equivalent and exported 169,000 tonnes of soybean meal. The aquaculture sector, very important in Norway, commits to using ProTerra certified soy protein concentrate.

Overview Soy Trade

In 2023, Norway imported 292,183 tonnes of soybean meal equivalent, of which 169,213 tonnes were exported to other countries. Embedded soy was imported via cheese and beef, but the volumes are modest. The total soybean meal available for domestic consumption was 129,493 tonnes.

Share of FEFAC SSG compliant soy

The Norwegian feed association reported using 359,400 tonnes of soy protein concentrate in fish feed, corresponding to 478,002 tonnes of soybean meal equivalent (conversion factor 1.33). This total amount is ProTerra certified.

RTRS shared that Norwegian actors acquired RTRS credits corresponding to 2,100 tonnes of soybean meal consumption. That means that more than 100%* of the domestic soybean meal consumption was FEFAC SSG compliant in the physical supply chain.

Feed industry

In this report, the total soybean meal for consumption is calculated. This soybean meal can go to all outlets: food, feed & industry. This text box reports specifically about the feed sector. The Norwegian feed association reported using 359,400 tonnes of soy protein concentrate in fish feed. This total amount is ProTerra certified and, therefore, 100% FEFAC SSG compliant.

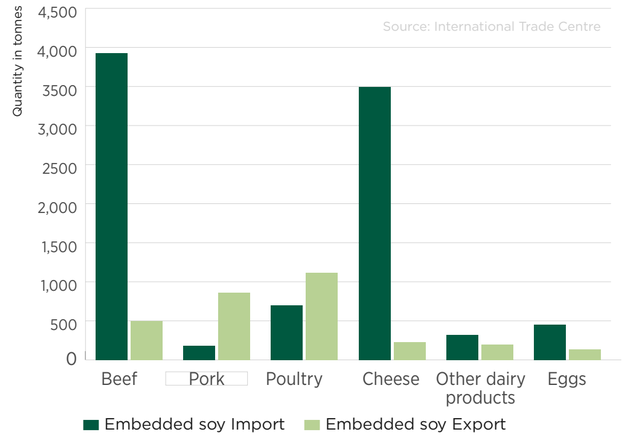
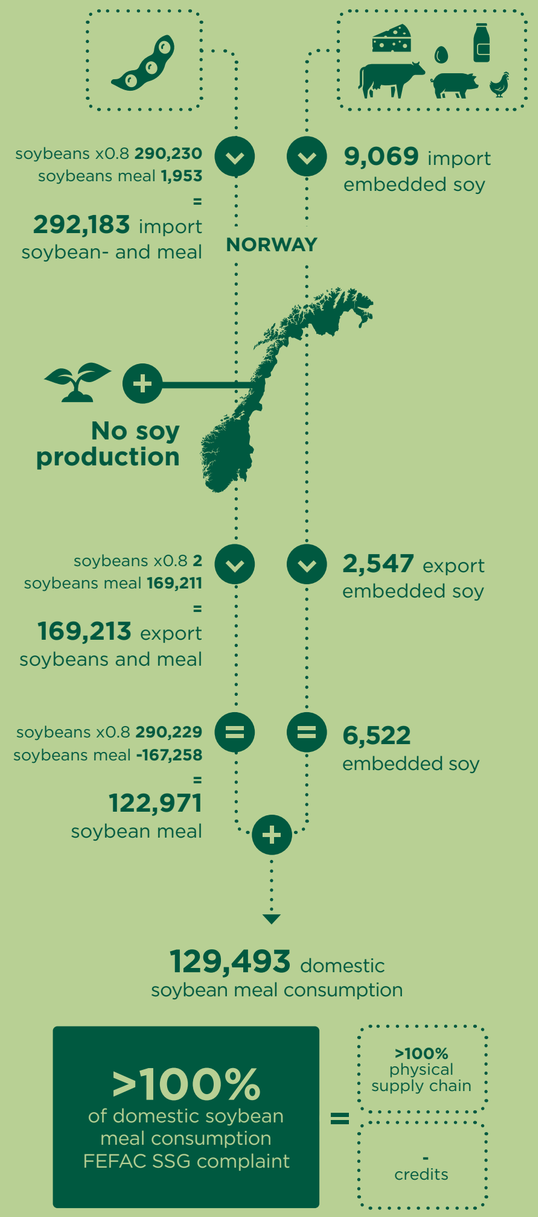


Figure 40 Norwegian import and export of embedded soy in 2023

* The calculation is as follows: (478,002 + 2,100) / 129,493



3.8.2 Developments towards sustainable soy

Figure 41 shows the % FEFAC SSG compliant soy in Norway over the period 2019-2023. Note that no 2022 data was collected.

Between 2019 and 2023, domestic soybean meal consumption decreased by 53%. It must be noted that in 2019, the European Soy Monitor also included embedded soy in farmed fish. This was not consistently taken into account over the years. Correcting for this difference, domestic soybean meal consumption still shows a reduction of almost 50%.

Over the years, Norway has consistently covered its entire domestic soybean meal consumption with FEFAC SSG compliant soy. Norwegian stakeholders have acquired a growing volume of Proterra soy in the physical supply chain, from 385,082 tonnes in 2019 up to 450,000 tonnes in 2021. In 2023, the volume declined to 359,400 tonnes. Norwegian stakeholders have acquired RTRS credits, but the volume has declined from 35,566 tonnes in 2019 to 2,100 tonnes in 2023.

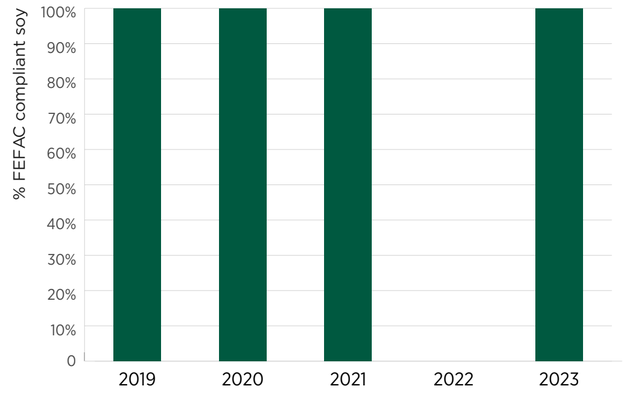
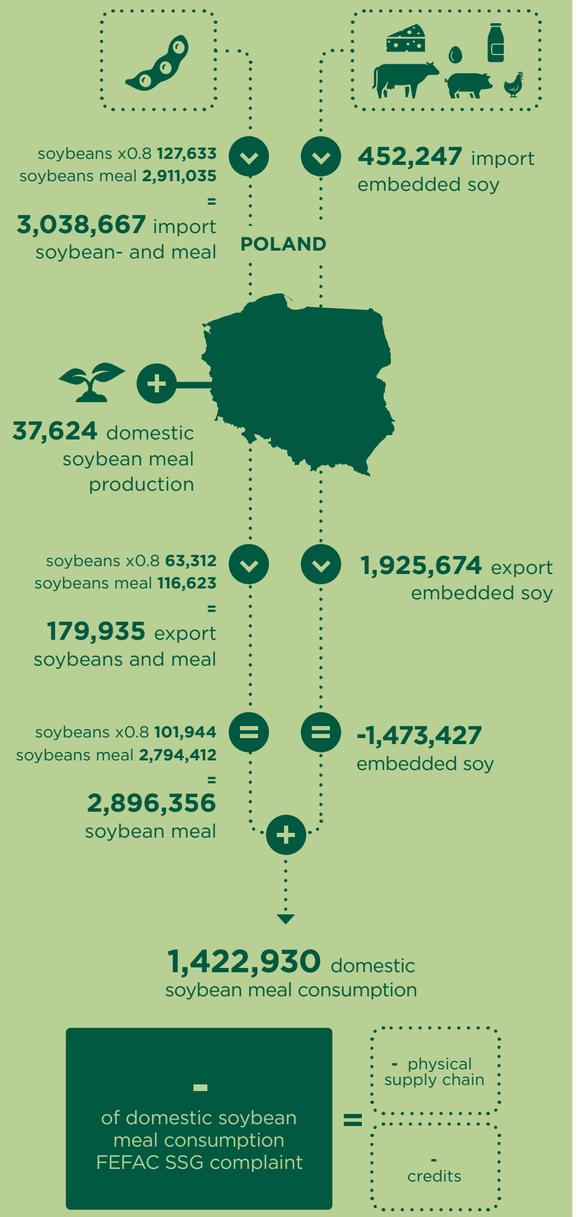


Figure 41 % Domestic soybean meal consumption that is FEFAC SSG compliant in Norway over 5 years (excl. 2022)

National initiatives

The Norwegian Commitments on Sustainable Soy and Forests were initially aimed at creating a collaborative platform for Norwegian stakeholders, including government and private companies, to address soy-related deforestation, mainly in South America. Over time, this commitment evolved to include broader dialogue through the Norwegian Dialogue on Responsible Soy, a multistakeholder initiative that provides an ongoing forum for discussing and implementing sustainable soy sourcing in Norway. In 2022 and 2023, the EthicalTrade Initiative Norway facilitated a strategic dialogue on deforestation and conversion-free soy.

In 2022 and 2023, Norway was also represented in ENSI (European National Soya Initiatives).



3.9 Poland

3.9.1 Soy overview 2023

In 2023, Poland imported slightly more than 3 million tonnes of soybean meal equivalent, the fifth highest amongst the countries covered in this report. Soy exports are modest, with 179,000 tonnes. Poland is especially very big in the production and export of poultry and eggs. Taking all direct and embedded soy flows together, the domestic footprint is average. Although there are no initiatives for the import of sustainable soy, the German market influences what is happening in Poland, also in the area of sustainability.

Overview Soy Trade

Poland imports 2.9 million tonnes of soybean meal and 127,000 tonnes of soybeans. There is little export of soybean products. Poland has a modest soy production itself, with 37,624 tonnes produced in 2023. The country imports very modest amounts of animal-based products and hence imports little embedded soy. At the same time, the country is a very large exporter of poultry. The domestic soybean meal consumption is 1,422,930 tonnes.

Share of FEFAC SSG compliant soy

The feed association has not provided further insights into the uptake of FEFAC SSG compliant soy.

3.9.2 Developments towards sustainable soy

The uptake of FEFAC SSG compliant soy in Poland has been zero for all years since 2019, which is a result of an absence of data for the country. It is unlikely that there is no uptake of FEFAC SSG compliant soy, since Polish companies serve markets in Germany and Scandinavia that have commitments in this area. Also, the QS SoyPlus standard is likely to have a an impact on Poland, as of 1 January 2024.

Feed industry

No additional insights from the Polish feed industry have been received to include in this report.

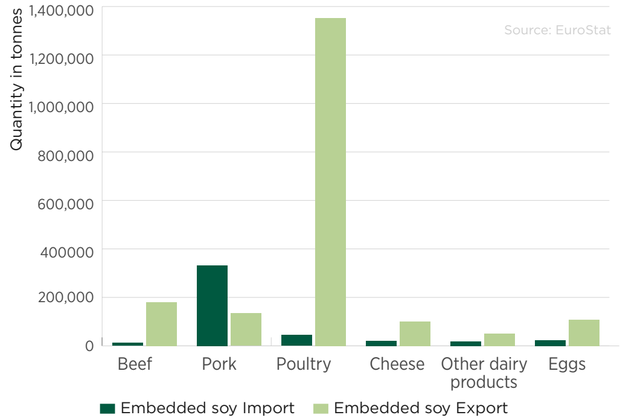
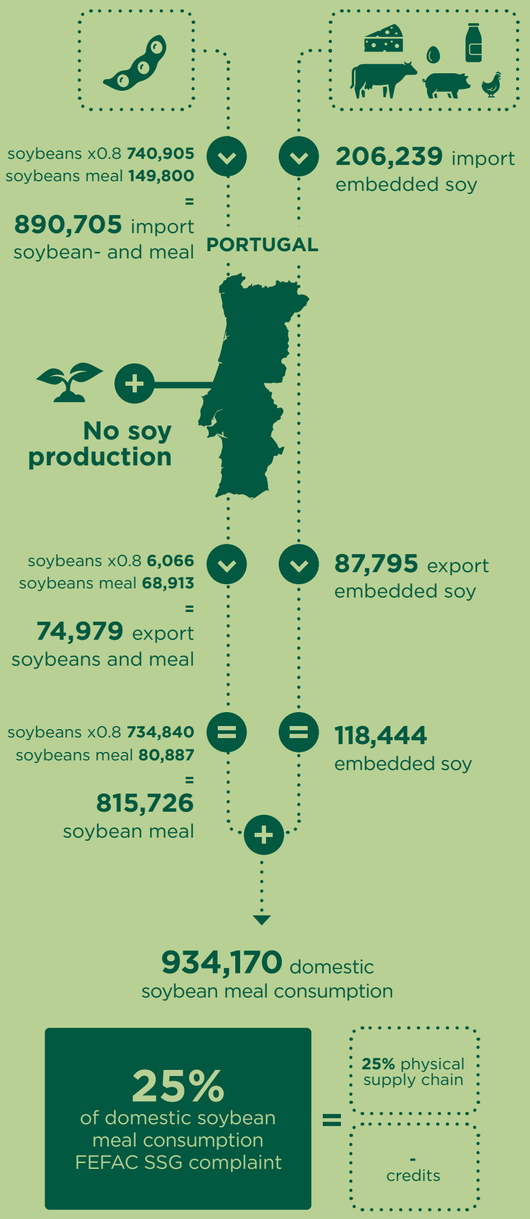


Figure 42 Polish import and export of embedded soy in 2021

National initiatives

Poland does not have a national multistakeholder initiative dedicated to soy. Efforts in the soy sector are led by the Polish Soybean Association, which supports the development of soybean cultivation in Poland. In addition, also developments in the German market, such as the development of the QS Soyplus standard, has an effect in the Polish market.



3.10 Portugal

3.10.1 Soy overview 2023

Portugal is, with 890,000 tonnes, the 10th largest importer of soybean meal equivalents of the countries assessed in this report. The country ranks 8th in terms of domestic soybean meal consumption.

Overview Soy Trade

In 2023, Portugal imported around 890,000 tonnes of soybean meal equivalents, of which most were soybeans. The country imports more animal-based products, especially poultry, pork, and beef, than it exports. This results in a relatively high embedded soy footprint. Taking all direct and embedded soy flows together, the domestic soybean meal consumption is 934,170 tonnes.

Share of FEFAC SSG compliant soy

The Portuguese Feed Association, IACA, reported that 384,420 tonnes of soy were FEFAC SSG compliant, of which 237,787 tonnes were SSAP soy. No specification of the reminder is given.

We have not received data about Portugal from the soy standards. This results in 25% FEFAC SSG compliant soy in the physical supply chain*.

Feed industry

In this report, the total soybean meal for consumption is calculated, but this soybean meal can go to all outlets: food, feed & industry. This text box reports specifically about the feed sector. IACA reported that its members use a total amount of 1,007,908 tonnes of soybean meal, of which 384,420 tonnes is FEFAC SSG compliant, which corresponds to 38% of the soybean meal used in compound feed.

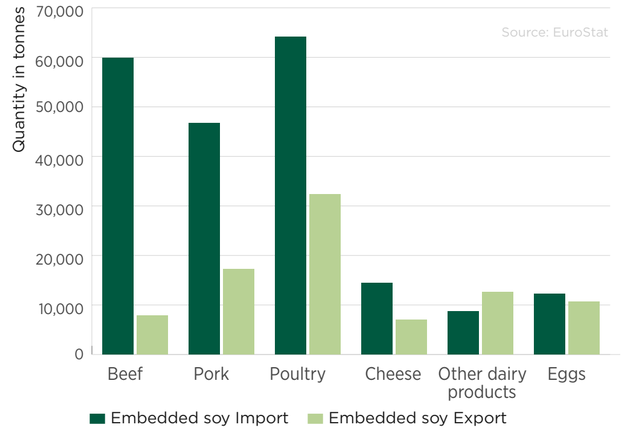
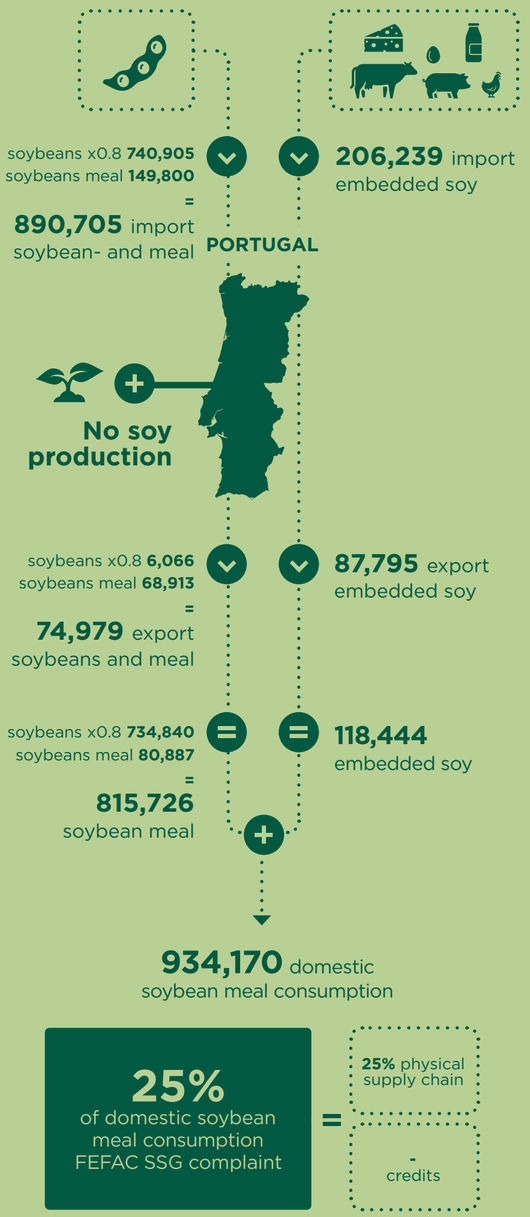


Figure 43 Portuguese import and export of embedded soy in 2023

* The calculation is as follows: 237,787 / 934,170



3.10.2 Developments towards sustainable soy

Figure 43 shows the % FEFAC SSG compliant soy over the period 2019-2023. Note that no 2022 data was collected. Over the period 2019-2023, domestic soybean meal consumption decreased by 12%. No very clear direction can be observed in the uptake of FEFAC SSG compliant soy in the country. In 2020, uptake peaked at 30%, decreased to 19% in 2021, and increased again to 25% in 2023.

The Portuguese FEFAC SSG compliant soy is especially SSAP soy. The variability of the percentage of FEFAC SSG complaint soy in Portugal is, therefore, likely to be more a result of economic factors (prices, exchange rates, availability) than of sustainability commitments.

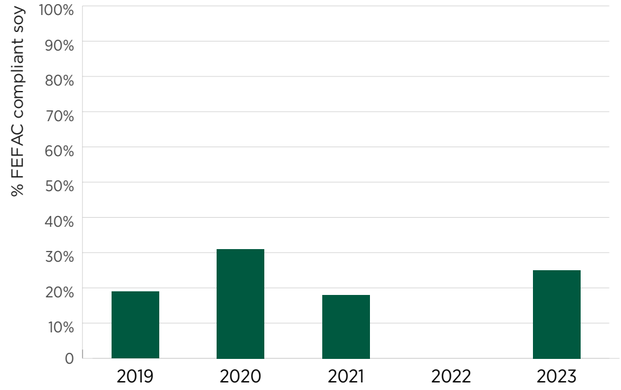
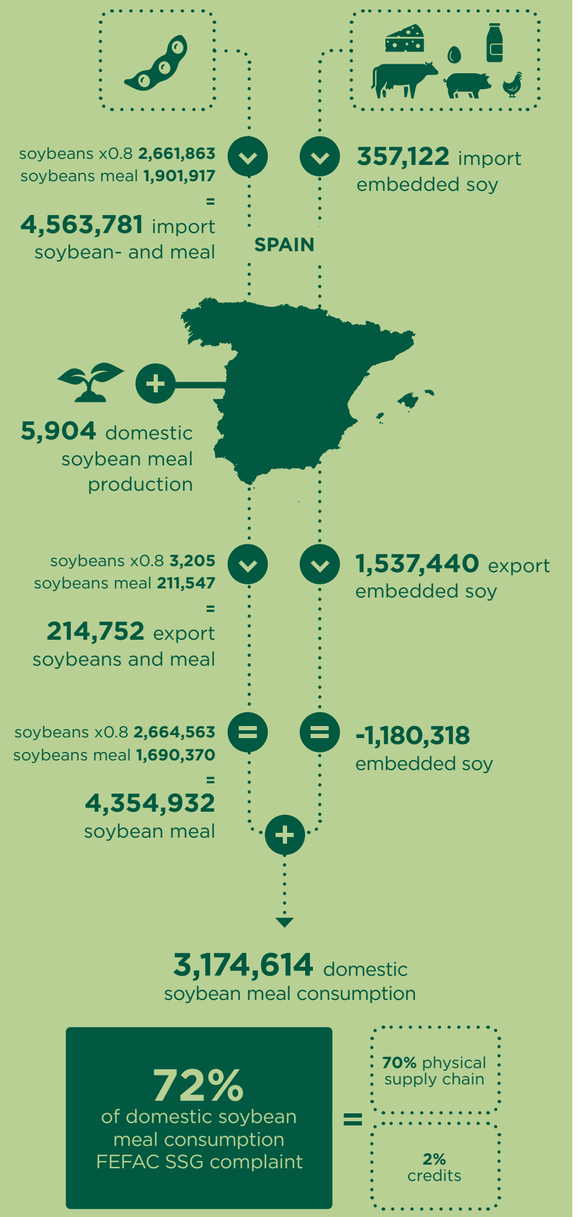


Figure 43 % Domestic soybean meal consumption that is FEFAC SSG compliant in Portugal over 5 years (excl. 2022)

National initiatives

Portugal does not have a multistakeholder initiative for soy. However, efforts to protect, promote, and restore biodiversity are seen in the Act4Nature Portugal initiative, led by the Business Council for Sustainable Development. The initiative is not directly focused on soy but instead addresses a broader conversation goal. Members of the initiative range from different industries and also include large retailers, such as Aldi Nord.



3.11 Spain

3.11.1 Soy overview 2023

Spain is, with an import of 4.5 million tonnes of soybean meal equivalents in 2023, a large player in the European soy market, ranking 3rd after the Netherlands and Germany. Trade in animal-based products is modest, except for pork exports. Production of soy in the country is modest. Taking all these soy flows into account, Spain ranks 3rd when looking at domestic soybean meal consumption amongst the countries assessed. Spain has a relatively large SSAP uptake. There is no national soy initiative nor collective commitments to sustainable soy.

Overview Soy Trade

In 2023, Spain imported 2.7 million tonnes of soybeans and 1.9 million tonnes of soybean meal. The country is a very large pork exporter, while trade flows of other animal-based products are relatively modest. With almost 6,000 tonnes of soy production, the country is one of the smaller soy producers in EU27+. The soybean meal available for national consumption is 3,174,614 tonnes.

Share of FEFAC SSG compliant soy

The Spanish Feed Association, CESFAC, reported that 1,537,192 tonnes of SSAP soy were used by its members.

USSEC itself reported a total use of 2,207,314 tonnes of SSAP soy for the Spanish market. RTRS reported that a total volume of 66,510 tonnes of soy was covered by RTRS Credits. This results in 72%* of the soybean meal being FEFAC SSG compliant. Of the total soybean meal domestically consumed, 70% is sourced from a physical supply chain model and 2% via RTRS Credits.

Feed industry

In this report, the total soybean meal for consumption is calculated, but this soybean meal can go to all outlets: food, feed & industry. This text box reports specifically about the feed sector. CESFAC reported that its members used 3,381,602 tonnes of soybean meal and indicated that 1,537,192 tonnes were SSAP soy. This corresponds to 45% of all soybean meal used.

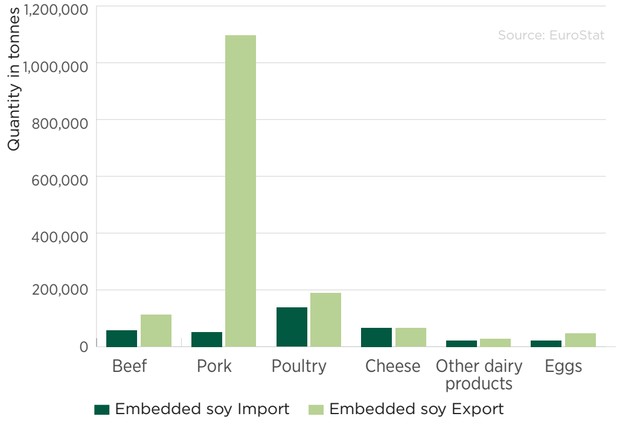
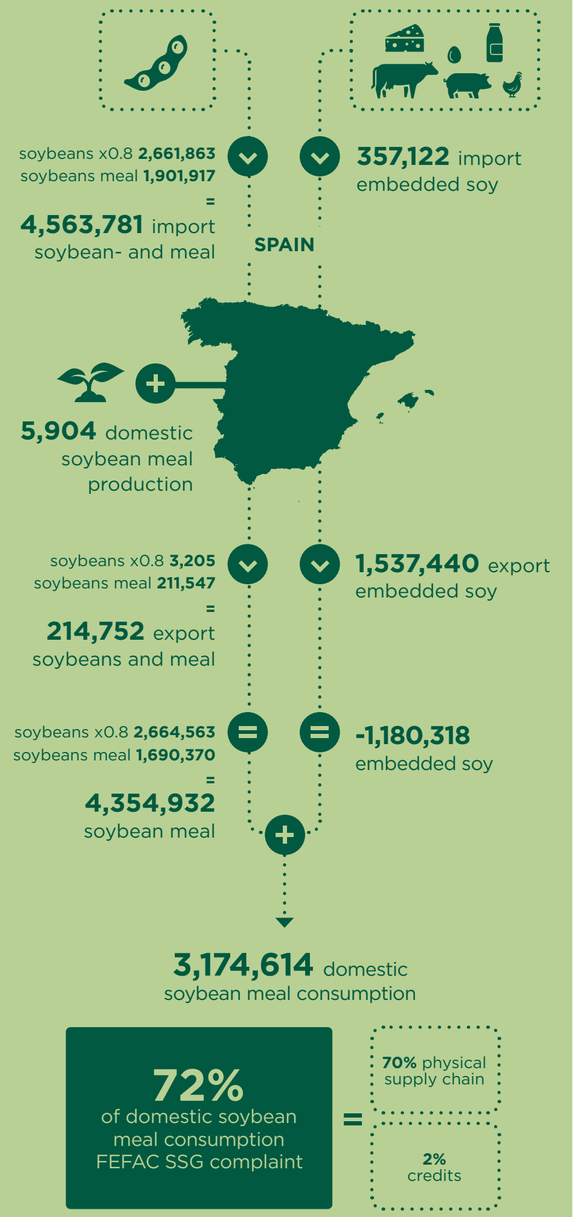


Figure 45 Spanish import and export of embedded soy in 2023

* The calculation is as follows: 2,273,824 / 3,174,614



3.11.2 Developments towards sustainable soy

Figure 46 shows the % FEFAC SSG compliant soy over the period 2019-2023. Note that no 2022 data was collected. An upward trend can be detected from 25% in 2019 to 72% in 2023.

Assessing the underlying trends shows that domestic soybean meal consumption decreased by 23% between 2019-2023. Which means that the same volume of FEFAC SSG compliant soy automatically results in a higher % of FEFSAC SSG compliant domestic soybean meal consumption. Combined with an actual increase in uptake of FEFAC SSG complaint soy, mainly SSAP soy, a larger share of the domestic soybean footprint can be considered FEFAC SSG compliant. Spanish actors have especially acquired SSAP soy, starting with 1 million tonnes in 2019, the volume grew to 1.537,192 tonnes in 2023. This is a 53% increase in 5 years. Spanish actors have also invested in RTRS credits, but the volume covered varied through the years. In 2020 (76,851 tonnes) and 2023 (66,510 tonnes), the uptake was higher; in 2019 (30,000 tonnes) and 2021 (20,020 tonnes) lower.

National initiatives

Spain does not have an initiative for sustainable, deforestation-free, and conversion-free soy. The Spanish Business and Biodiversity Initiative, that unites different stakeholders around the topic of biodiversity does not focus specifically on deforestation and conversion-free soy, but could be a focal point for future discussions on soy.

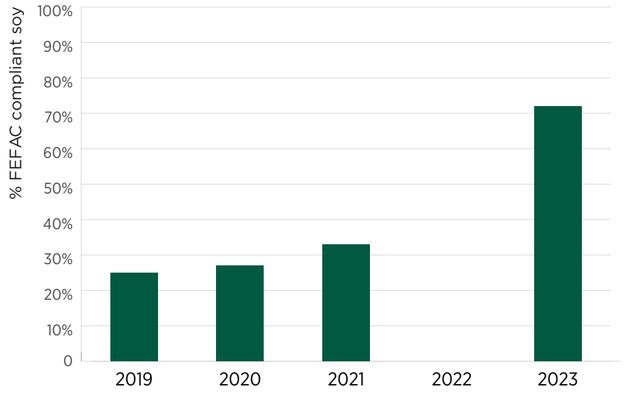
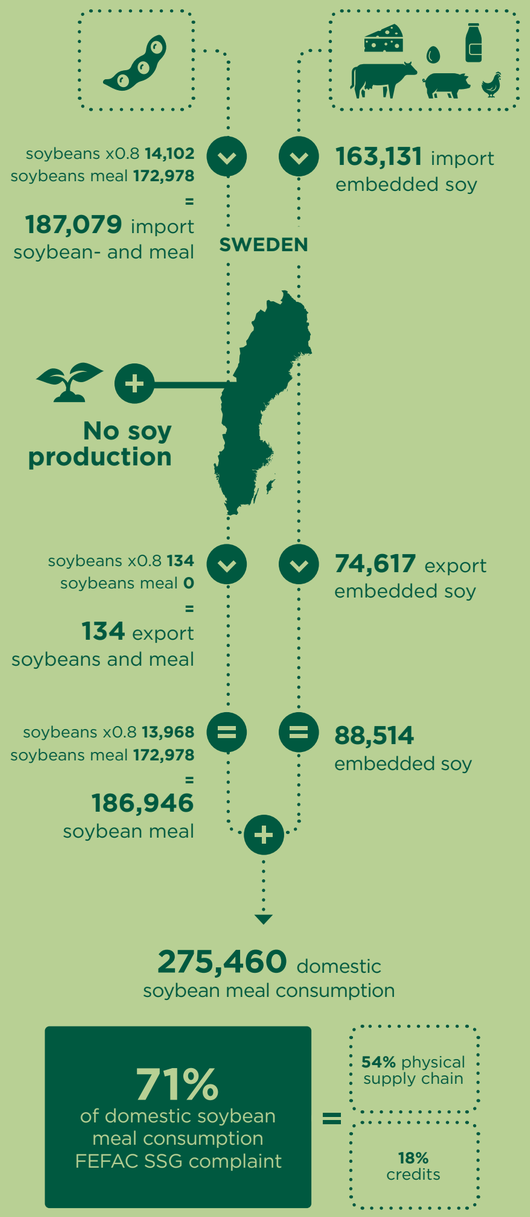


Figure 46 % Domestic soybean meal consumption that is FEFAC SSG compliant in Spain over 5 years (excl. 2022)



3.12 Sweden

3.12.1 Soy overview 2023

Sweden has the lowest soy import of all countries assessed in this report. In addition, the country has the second-lowest domestic soybean meal consumption footprint. In 2023, Sweden imported around 187,000 tonnes of soybean meal equivalent, and there was practically no export of those products. The country is a strong net importer of animal-based products, but also exports some poultry.

Overview Soy Trade

Sweden is a small player in the European soy sector with an import of 187,079 tonnes of soybean meal equivalents. Via the import of animal-based products, there is an additional footprint of embedded soy. The available soybean meal for domestic consumption is 275,460 tonnes of soybean meal equivalents.

Share of FEFAC SSG compliant soy

The Swedish Feed Association reported that 176,400 tonnes of soybean meal are FEFAC SSG compliant. A specification is given for the standards Europe Soya (8,000 tonnes), ISSC+ (1,400 tonnes), Proterra (121,000 tonnes), and RTRS (3,000 tonnes). In addition, 14,000 tonnes of soybeans were acquired from a Canadian source that is certified equivalent to RTRS, and 29,000 tonnes under the IFOAM organic standard. This last volume is not included since it is not a standard benchmarked against the FEFAC SSGs.

RTRS reports the total uptake of RTRS Credits covering 50,375 tonnes of soy by Swedish actors.

This corresponds to 71% FEFAC SSG compliant soy*. Of the total volume, 18% was covered by RTRS Credits and 54% by solutions in the physical chain, such as Proterra.

Feed industry

In this report, the total soybean meal for consumption is calculated, but this soybean meal can go to all outlets: food, feed & industry. This text box reports specifically about the feed sector. The Swedish Feed Association reports a total use of 176,400 tonnes of soybean meal, of which all 176,400 tonnes are FEFAC SSG compliant.

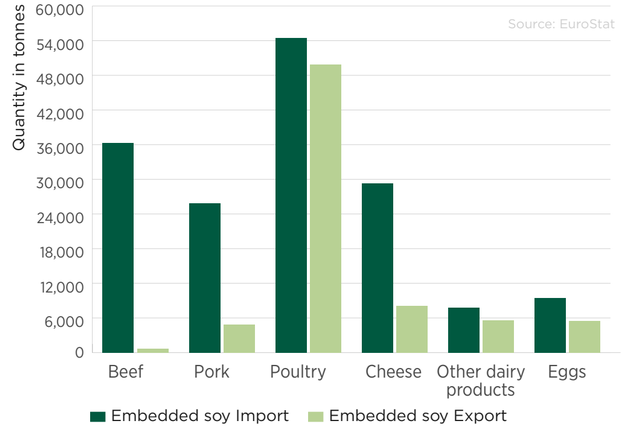
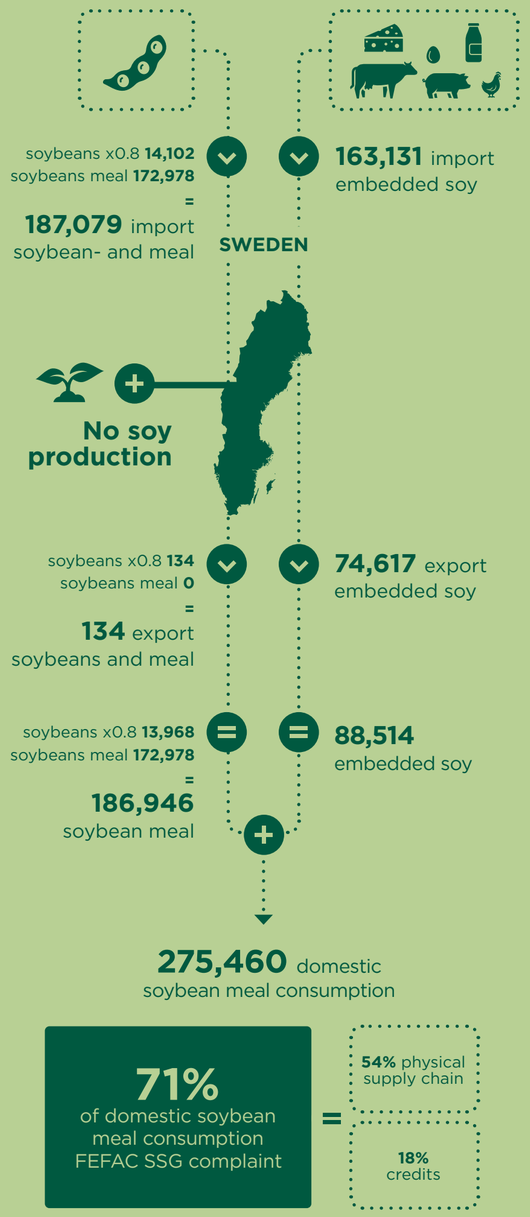


Figure 47 Swedish import and export of embedded soy in 2023

* The calculation is as follows: 194,775 / 275,460



3.12.2 Developments towards sustainable soy

Figure 48 shows the % FEFAC SSG compliant soy in Sweden over the period 2019-2023. Note that no 2022 data was collected. A decline in FEFAC SSG can be observed, from 95% in 2019 to 71% in 2023.

Assessing the underlying trends, it can be observed that the domestic soybean meal consumption decreased by 17% between 2019 and 2023. However, the volume of FEFAC SSG compliant soy reported by the feed sector declined by 27%, from 243,000 tonnes in 2019 to 176,400 tonnes in 2023.
Since reporting began in 2019, the Swedish feed sector has predominantly focused on sourcing ProTerra-certified soy. Although Proterra volumes have declined from 172,000 tonnes in 2019 to 121,000 tonnes in 2023, ProTerra remains the dominant standard.

In addition, Swedish actors in the food chain also procure RTRS credits. After a peak in 2019 of credits covering 70,557 tonnes of soy, the uptake of credits has been lower in the years after, with the lowest uptake in 2021 (34,245 tonnes).

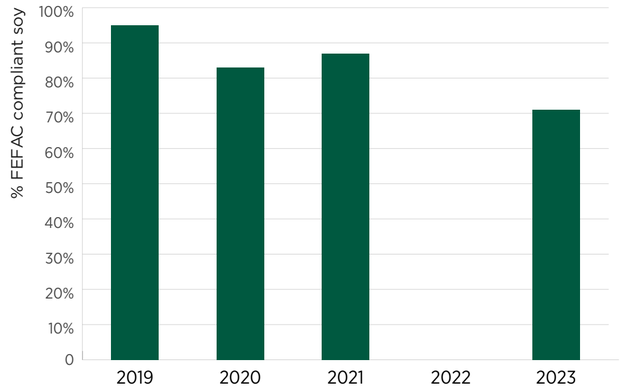


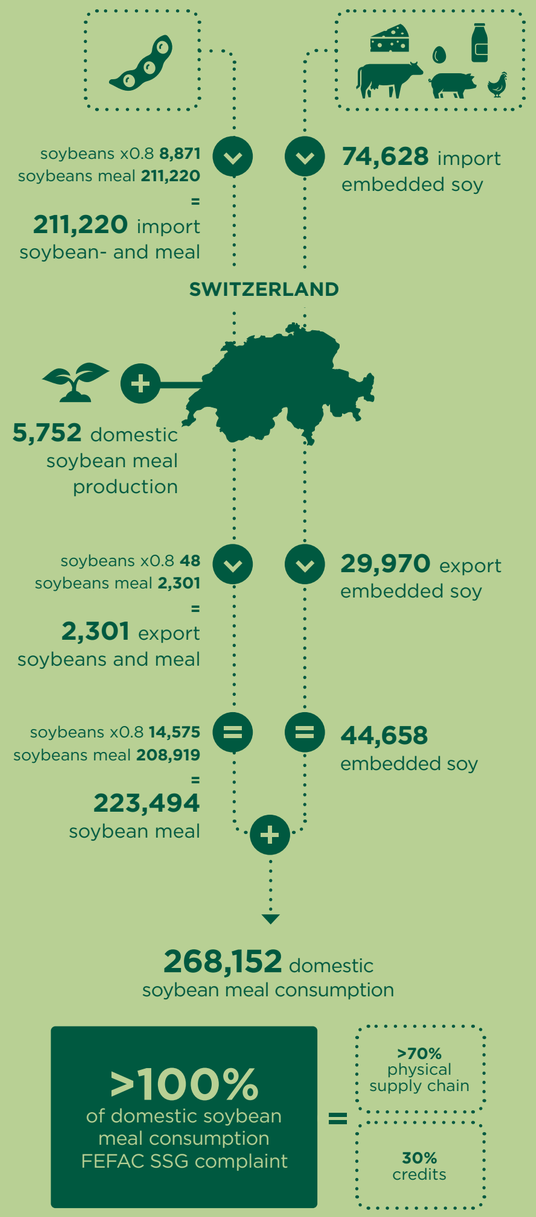
Figure 48 % Domestic soybean meal consumption that is FEFAC SSG compliant in Sweden over 5 years (excl. 2022)

In 2023, for the first time, the uptake of soy under a broader scale of standards has been reported, such as Europe Soya; however, the total uptake was with 176,400 tonnes by the feed sector and 50,375 RTRS soy credits by downstream companies, lower than in previous years.

National initiatives

In April 2022, the Swedish Platform on Risk Commodities was launched as the successor of commodity-specific platforms for soy and palm oil, coordinated by Ethical Trading Initiative Sweden. It brings together Swedish companies and organizations that want to contribute to the sustainable production and consumption of soy and palm oil. The commitment encompasses that members verify that soy and palm oil in all products handled are verified as sustainable, for example, through certification.

In 2022 and 2023, Sweden was also represented in ENSI (European National Soya Initiatives).



3.13 Switzerland

3.13.1 Soy overview 2023

Switzerland ranks 4th lowest in soy imports amongst the countries assessed. The country imported 220,000 tonnes of soybean meal equivalents in 2023. There was practically no export of soy. Except for cheese, which is being exported, Switzerland is a net importer of other animal-based products. Altogether, Switzerland ranks 3rd lowest in domestic soybean meal consumption among all countries assessed in this report. However, the country has a very clear commitment to European, sustainable and deforestation and conversion-free soy, which is managed by the Swiss Soya Network.

Overview Soy Trade

Switzerland is a small player in the European soy sector with an import of 220,091 tonnes of soybean meal equivalents. Via the import of animal-based products, embedded soy is added to the overall soy footprint. The country also has a modest own soy production with 5,752 tonnes of soybean meal equivalents in 2023. The available soybean meal for domestic consumption is 268,152 tonnes of soybean meal equivalents.

Share of FEFAC SSG compliant soy

The Swiss Soya Network reported a use of 210,552 tonnes of FEFAC SSG compliant soy, of which 58,555 tonnes ISCC, 116,445 tonnes ProTerra, 16,710 tonnes Europe Soya, 334 tonnes Donau Soja, and 18,508 tonnes BioSuisse. BioSuisse is not benchmarked against the FEFAC Soy Sourcing Guidelines and is therefore not taken into account.

RTRS indicates that Swiss actors acquired RTRS Credits covering 79,726 tonnes of soy and 2,900 tonnes of soy via the mass balance chain of custody model.
This corresponds to more than 100%* FEFAC SSG compliant soy. Of the total soybean meal available for consumption, 30% is covered by RTRS Credits and >70% by solutions in the physical chain.

* The calculation is as follows: 274,670 / 268,152

Feed industry

The feed industry reported via the Swiss Soy Network that all soybean meal used in the sector was FEFAC SSG compliant.

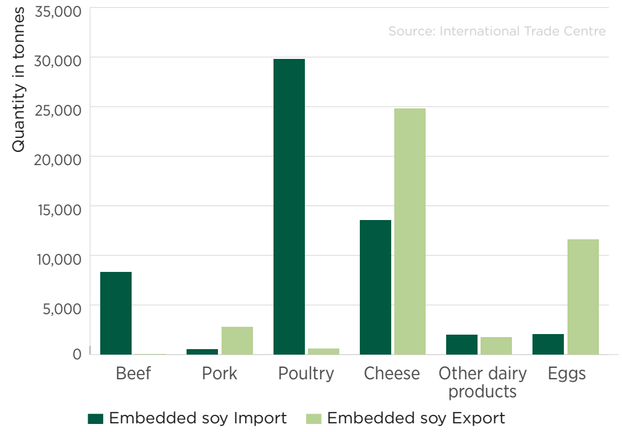
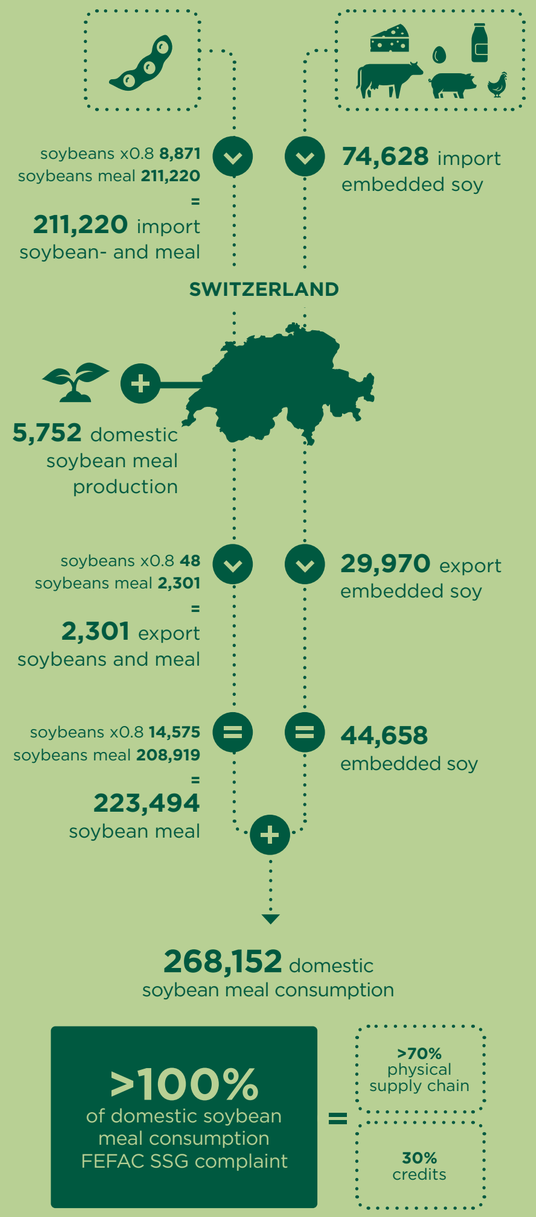


Figure 49 Swiss import and export of embedded soy in 2023



3.13.2 Developments towards sustainable soy

Figure 50 presents the percentage of FEFAC SSG compliant soy from 2019 to 2023. Switzerland was not included in the 2019 report, and no data was collected for 2022, resulting in two missing years.

Switzerland has, with the Swiss Soy Network, a clear, collective commitment to sustainable, deforestation and conversion-free soy in the physical supply chain, which is reflected in the European Soy Monitor.

Since the first report in 2020, Switzerland has demonstrated a strong commitment to local, non-GMO, and responsibly sourced soy. In 2020, the dominant FEFAC SSG standards used were Donau Soja, ICSS+, ProTerra, and RTRS. These standards remained prominent in the following years, with additional volumes reported under BioSuisse in both 2021 and 2023. While BioSuisse is not a FEFAC SSG compliant standard, its inclusion reflects an increased uptake of organic soy and a broader commitment to environmental sustainability.

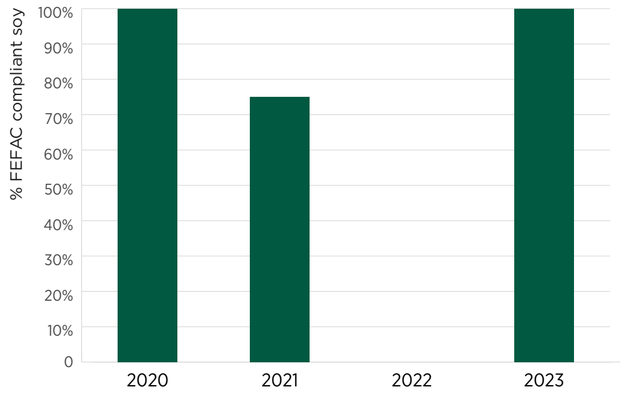


Figure 50 % Domestic soybean meal consumption that is FEFAC SSG compliant in Switzerland over 5 years (excl. 2019 and 2022)

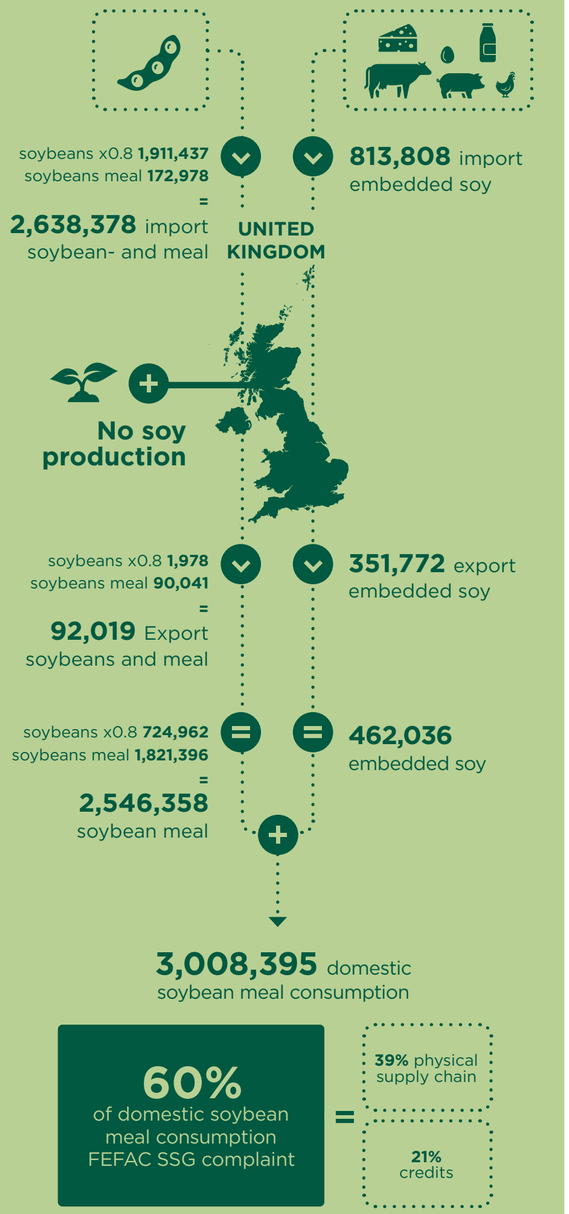
Volumes in the physical supply chains of ISCC+ and ProTerra soy remained stable from 2020 to 2023. In contrast, the volume of RTRS credits decreased significantly, from 171,353 tonnes in 2020 to 79,726 tonnes in 2023. The drop in 2021 may be due to a significant gap in the uptake of RTRS credits in 2021, with only 1,000 tonnes recorded.

In both 2020 and 2023, Switzerland covered 100% of its domestic soybean meal consumption with FEFAC SSG-compliant soy. While this indicates continued commitment to sustainability standards, it is worth noting that domestic soybean meal consumption decreased by 13% over the period, meaning that the absolute total volume of responsibly sourced soy also declined.

National initiatives

In Switzerland, the Swiss Soya Network is committed to the cultivation, procurement, marketing, and use of responsibly produced soy and other feed components. The network aims to achieve at least 90% market coverage with responsibly produced soya and other animal feed. One of the focus areas of the Network is to reduce dependency on Brazilian imports and to increase the uptake of certified European Soy. This strategy has led to a reduction of 85% of CO_2 equivalents between 2004 and 2022.

In 2022 and 2023, the Swiss Soya Network was represented in ENSI (European National Soya Initiatives).



3.14 United Kingdom

3.14.1 Soy overview 2023

The United Kingdom plays an important role in the European soy sector, ranking 4th in volume of soy imports. The country has a mid-level position in domestic soybean meal consumption. The country has leading initiatives to guarantee deforestation and conversion-free soy, among which are the Soy Manifesto and the UK Roundtable for Responsible Soy.

Overview Soy Trade

In 2023, the United Kingdom imported 2.6 million soybean meal equivalents and exported hardly any soy to other countries. The country imports more animal-based products than it exports, which affects its total soybean footprint via embedded soy. The total soybean meal available for domestic consumption is 3,008,395 tonnes.

Share of FEFAC SSG compliant soy

The Agricultural Industries Confederation (AIC) shared a total use of 2,150,063 tonnes of soybean meal in 2023, of which 1,145,795 tonnes were FEFAC SSG compliant. No specification of this volume was provided.

RTRS reported that actors from the United Kingdom acquired RTRS credits for responsible soy, covering 1,167,569 tonnes of soybean meal. USSEC reported that the United Kingdom acquired 378,026 tonnes of SSAP soy in the physical chain. Cefetra reported the uptake of CRS book & claim credits covering 250,000 tonnes of soybean meal by actors in the United Kingdom.

This results in an uptake of 60%* FEFAC SSG compliant soy, of which 21% is via Book & Claim and 39% via physical chain of custody models.

3.14.2 Developments towards sustainable soy

Figure 52 shows the % FEFAC SSG compliant soy over the period 2019-2023. Note that in 2022, no data was collected. It is important to mention that the figures from the UK have been collected a bit differently over time. In 2019, the

Feed industry

The Agricultural Industries Confederation (AIC) shared a total use of 2,150,063 tonnes of soybean meal in 2023, of which 1,145,795 tonnes were FEFAC-compliant. This corresponds to 53% FEFAC SSG compliant soy.

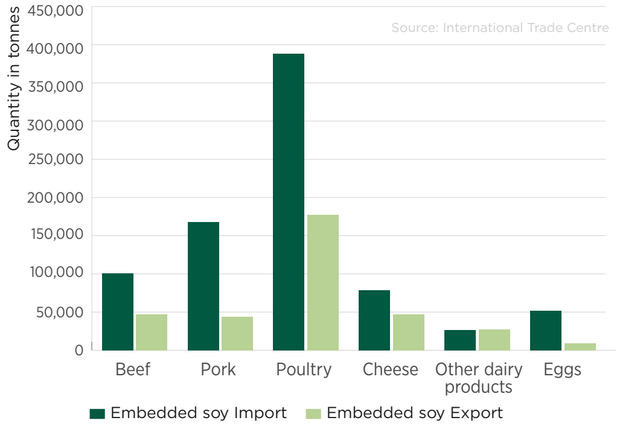
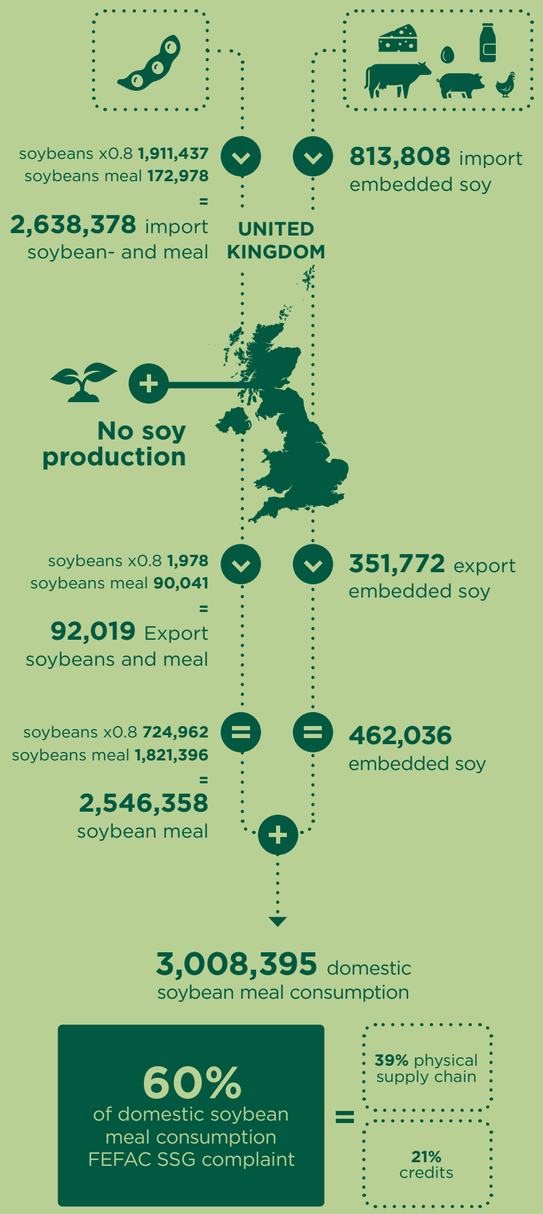


Figure 51 United Kingdom's import and export of embedded soy in 2023



feed association provided estimations, and RTRS data were available. In 2020 and 2021, the report of the Roundtable on Sustainable Soya provided an insight into the uptake of credits and physically certified soy in the UK market. For 2023, a report from the UK Manifesto was available, but this was set up slightly differently, which did not allow for the same approach. In 2023, therefore, the soy standards themselves were the main source of information. This resulted in a variation over the years that was more correlated to data quality than to anything else.

That being said, the figure shows a drop in FEFAC SSG compliant soy in 2020 and 2021 compared to 2019, which recovered again in 2023. This is more likely to be the result of an overestimation of the FEFAC SSG compliant soy in 2019 than an actual drop in the uptake of soy sourced under a certified scheme.

In 2019, the feed association estimated that 1,322,187 tonnes of soy were FEFAC compliant. Additionally, stakeholders in the UK acquired 395,694 tonnes of RTRS credits. In 2020, the Roundtable reported an uptake of credits covering 625,158 tonnes of soy and 251,588 tonnes of soy certified under a physical chain of custody model.

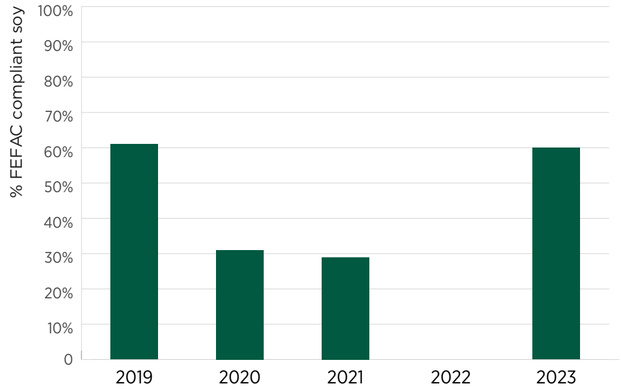


Figure 51 % Domestic soybean meal consumption that is FEFAC SSG compliant in the in United Kingdom over 5 years (excl. 2022)

A similar story can be observed in 2021, where the UK Roundtable reported an uptake of credits covering 602,262 tonnes of soy and 193,350 soy via physical chain of custody models.

Although no data is available for 2022, we can expect that the uptake increased compared to 2021 in line with the collective commitments of industry actors in the UK under the Roundtable and the UK Retail Manifesto. In 2023, SSAP, RTRS, and CRS provided data for the uptake of soy in the UK, which shows an increase compared to previous years. In addition to the change in certified volumes, the domestic soybean meal consumption increased by 7% between 2019 and 2023.

National initiatives

The United Kingdom (UK) has various initiatives supporting the uptake of deforestation - and conversion-free soy. The UK Roundtable on Sustainable Soya was first convened in 2018 and is funded by the UK Government. The group, along with the Roundtable on Sustainable Palm Oil, has now evolved into the UK Sustainable Commodities Initiative (UK SCI). The collective goal of the UK SCI is to achieve sustainable, resilient forest-risk commodity supply chains for the UK market, and it now covers multiple commodities and thematic areas in response to increasing industry commitments and actions. Its members represent parties throughout the supply chain, from traders to large retailers.

Another initiative is the UK Soy Manifesto, which was established in 2021. This Manifesto is a collective industry commitment in the UK to ensure that all physical shipments to the UK are deforestation and conversion-free (cut-off 2020). The Manifesto brings together a wide range of actors across the supply chain, and by May 2025, over 50 UK food companies, including major retailers such as Tesco and Lidl, committed to ensuring that all soy used in their products is verified deforestation and conversion-free.

In 2022 and 2023, the United Kingdom was also represented in ENSI (European National Soya Initiatives).

4 Analysing the value of landscape initiatives

It is increasingly recognized that, alongside supply chain-specific actions, interventions at the aggregated level are necessary to tackle challenges such as deforestation, biodiversity loss, or water depletion. Landscape initiatives aim to do exactly this.

4.1 Conversion hotspots in soy-producing biomes

In the following sections, we outline where conversion of natural vegetation happens in Brazil and Argentina. Note that this conversion can have various causes, such as illegal logging, mining, cattle ranging and agricultural production, and is thus not necessarily driven by soy expansion.

4.1.1 Brazil

As discussed in Chapter 1, conversion of natural vegetation in the Amazon decreased, whereas it increased in the Cerrado. Figure 51 shows the locations of the Amazon, Cerrado and Pampas biome. Unlike the Amazon, the Cerrado is fully located in Brazil. In addition to the Amazon and Cerrado, soy production is also increasing in the Pampas, an important natural grassland region in southern Brazil.

Figures 52 and 54 show for both the Amazon and the Cerrado where the conversion of natural vegetation took place between 2018-2023. The dark red dots indicate loss of natural vegetation in this period. The data is derived from MapBiomas. Figure 52 shows the Legal Amazon, which is a larger area than the Amazon biome and also includes parts of the Cerrado. Conversion of natural vegetation occurred primarily in the northwest, the east, and the southeast. The middle of the Legal Amazon and the northern states show lower deforestation and conversion rates.

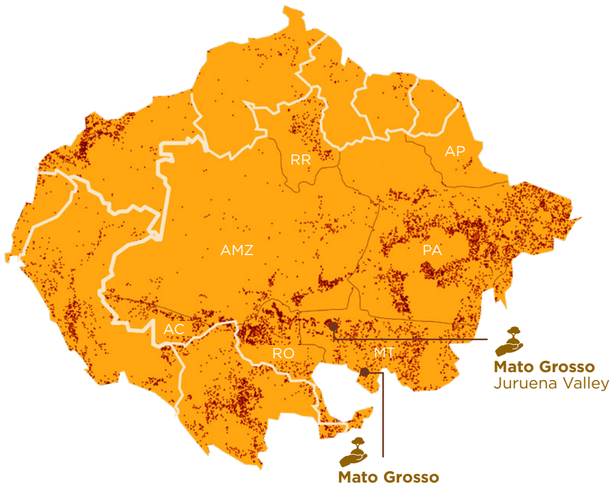


Figure 52 Deforestation between 2018 and 2023 in the legal Amazon (Based on MapBiomas Brasil[79])

Figure 53 Legal Amazon, Cerrado and Pampas

Figure 54 shows the regions where conversion of natural vegetation took place in the Cerrado between 2018 and 2023. The Cerrado comprises a diverse range of vegetation types beyond forests, such as savannas, shrublands, and grasslands. The figure shows that recent conversion of natural vegetation is mainly happening on the northwest side of the biome.

Table 6 provides an overview of the relative (percentual change) and absolute loss of vegetation[81] in the period 2019-2023 using MapBiomas data. Here vegetation includes forest formation, savanna formation, mangrove, wooded sandbank vegetation and floodable forest. Pará (Amazon), Maranhão (Cerrado), and Mato Grosso (Cerrado and Amazon) are the states with the most hectares of vegetation lost. These states account for 48% of the total conversion over this period.

The relative loss of natural vegetation was biggest in Maranhão (-9%, Cerrado), Rio Grande do Sul (-6%, Pampas), Rondônia (-6%, Amazon), and Tocantins (-5%, Cerrado).

Table 6 Relative and absolute loss of natural ecosystems 2019-2023, based on MapBiomas Brasil

State	Relative	Absolute in ha.
Tocantins	-5%	-828,913.32
Amapá	-1%	-147,818
Roraima	-1%	-272,930
Acre	-3%	-397,997
Amazonas	-1%	-1,216,454
Paraná	0%	17,265
Rondônia	-6%	-902,734
Distrito Gederal	-1%	-1,964
São Paulo	1%	55,377
Pará	-3%	-2,854,771
Mato Grosso do Sul	-3%	-371,298
Rio Grande do Sul	-6%	-843,400
Piauí	-4%	-816,089
Bahia	-4%	-1,223,409
Minas Gerais	-1%	-313,780
Mato Grosso	-3%	-1,867,350
Maranhão	-8%	1,816,196
Goiás	-3%	-382,564

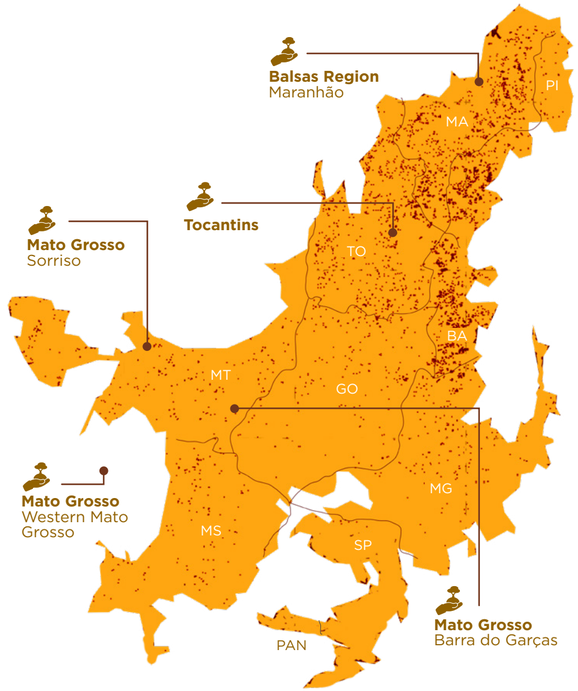


Figure 54 Deforestation between 2018 and 2023 in the Cerrado, based on MapBiomas Brasil[80]

More details on the relation between soy expension and deforestation

In a recent publication by Trase, a more detailed assessment of the relationship between soy expansion and deforestation is given. Trase[82] shows that both the states of Mato Grosso (Amazon and Cerrado biomes) and Rio Grande do Sul (Pampas biome) were deforestation frontiers in 2022 (latest data available), followed by Maranhão and Bahia (both in the Cerrado). Trase also shows the trade flows between Brazilian states and the EU27+. It shows that from the total volume traded from Mato Grosso to other countries, 36.3% ends up in the EU27+. There is also a volume produced in Brazil from a category 'unknown states), from here, 18.6% goes to EU27+. From Parana 8.5% is traded to the EU27+, from Bahia 7.7% and from Goias 7.5%. These states make up the majority of soy traded to EU27+. In all states, conversion of natural ecosystems takes place, except for Parana, as can be seen in Table 6.

If you want to learn more about the specific trade flows between Brazilian states and the EU27+.
Please view the interactive graph of Trase.

4.1.2 Argentina

The Gran Chaco is a semi-arid biome found in Argentina, Paraguay, and Bolivia. Figure 56 shows where it is located. MapBiomas provides insight into the conversion of this ecosystem. This report focuses on Argentina.

Figure 55 shows the loss of forest between 2000-2023 in the Chaco. As a result of data availability, the time frame differs from the visuals for Brazil. Although conversion is occurring throughout the entire country, there are provinces with a higher concentration of conversion.

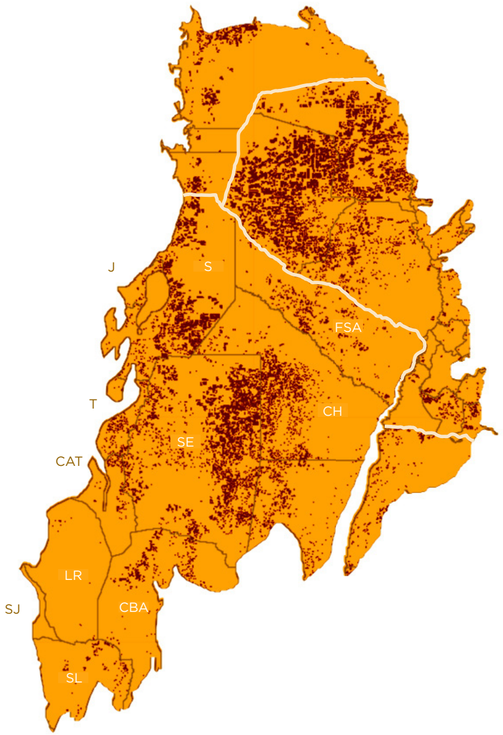


Figure 55 Deforestation between 2000 and 2023 in the Gran Chaco (Based on MapBiomas Chaco[83])

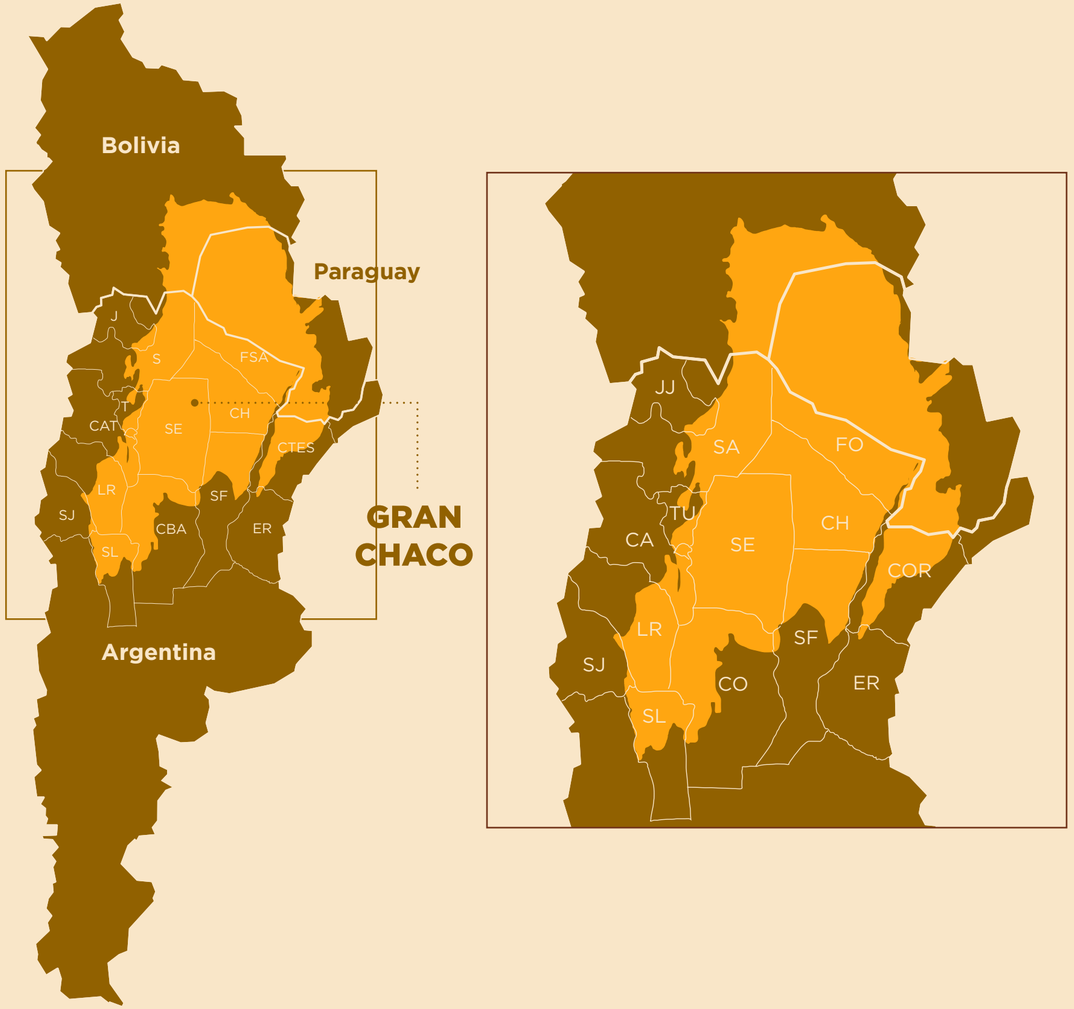


Figure 56 Gran Chaco

Table 7 shows relative (percentual change) and absolute loss of natural vegetation between 2019 and 2023. The states with the highest absolute conversion of natural vegetation are Santiago del Estero (-228,425 ha), Chaco (-222,944 ha), and Corrientes (-144,270 ha), all showing significant negative relative changes as well (-2% to -4%). Entre Ríos shows the largest relative decrease at -14%, but with a smaller absolute area converted (-2,963 ha). Other states like Salta, Formosa, and Tucumán also show notable loss of natural vegetation. Conversely, Córdoba shows a positive relative change (+1%) with a gain in ecosystem area (+27,713 ha).

Table 7 Relative and absolute loss of natural ecosystems 2019-2023, based on MapBiomas Chaco

Province	Relative	Absolute in ha.
Tucumán	-2%	-10,906
Santiago del Estero	-2%	-228,425
San Luis	-1%	-15,008
San Juan	0%	-868
Salta	-2%	-118,239
Misiones	No data	No data
Mendoza	0%	-33
La Rioja	0%	-15,863
Jujuy	-3%	-9,946
Formosa	-1%	-95,680
Entre Ríos	-14%	-2,963
Córdoba	1%	27,713
Corrientes	-4%	-144,270
Chaco	-3%	-222,944
Catamarca	0%	-5,562

More details on the relation between soy expension and deforestation

Unfortunately, there is no 2022/2023 data from Trase available showing which provinces in the Chaco supply the EU27+ market with soy. However, Trase provides 2019 data which can be used to provide an indication into which provinces in Argentina supply the EU27+ market. The 2019 data shows that from the category 'import+stock,' 41.1% goes to the EU27+. This is by far the greatest trade category for EU27+ trade. The second biggest category is Cordoba (part of the Gran Chaco biome), of which 21.5% is traded with the EU27+, followed by Santa Fe (not a part of the Gran Chaco biome) of which 16.5% goes to the EU27+ and Buenos Aires 12.2%. Relatively small, yet existing flows go from Santiago del Estero and Entre Ríos to the EU27+. Both provinces are part of the Gran Chaco and have relatively high rates of conversion of natural vegetation, as seen in Table 7.

If you want to learn more about the specific trade flows between the Argentinian states and the EU27+. Please view the interactive graph of Trase.

4.2 Introducing landscape initiatives

Landscape approaches establish sustainability goals at the level of watersheds, biomes, jurisdictions, or company sourcing areas, i.e., beyond individual farms or specific supply chains. There are several potential advantages to landscape approaches. Firstly, they can potentially make the bulk purchase of, and finance for, sustainable soy more straightforward. Secondly, farmers may lack the resources to adopt sustainable practices, but collective action can help them tackle shared challenges and access support, financing, and commercial opportunities. Finally, the inclusion of multiple stakeholders might enable a more holistic and coherent approach to sustainability than can be achieved by working on a farm-by-farm basis.

Landscape approaches involve the long-term collaboration of stakeholders who aim to jointly define social, economic, and environmental goals via multistakeholder discussions to reach consensus and integrated landscape management (TFA et al. 2020; CDP n.d.)[84]. Jurisdictional approaches are a specific form of landscape approaches that align with subnational or national political jurisdictions (state, municipality) rather than ecologically coherent landscapes, but have the advantage of aligning with political power and resources.

The landscape approach is recognized in policy (e.g., the Kunming-Montreal Global Biodiversity Framework), is supported by several global institutions, and one of the six instruments recognized in the Collaborative Soya Initiative's Magic Cube[85].

4.2.1 Landscape initiatives in soy

Although landscape approaches are by definition not commodity-specific, there are various landscape initiatives in soy-producing regions. In their Global Study into landscape initiatives in soy, CDP, TFA, and Proforest provide an overview of all soy landscape initiatives* with and without company engagement. In the next section, a summary is provided of the landscape initiatives with a soy component.

- **Brazil - Mato Grosso**

Matto Grosso is within the Legal Amazon and includes extensive areas of Amazon forest to the north and Cerrado to the south. It is the largest soy producing state in Brazil, accounting for more than 23% of the country's production in 2022. An estimated 36% of the state's soy production is exported to China, with 17% consumed domestically. It had the second highest rate of tree cover loss of any state in Brazil, and in 2023, lost 313,000 hectares of natural forest[86]. Around one fifth of the deforestation and conversion is likely to have been caused by the expansion of soy cultivation.[87]

As both a major sourcing region and a focus of deforestation, the state has attracted a number of landscape initiatives. The state-level Compact in Mato Grosso is the first example of the Produce, Conserve, and Include (PCI) approach implemented at scale. This Compact is managed by the PCI Institute. The state level ambition is being put into practice through four Compacts that have been established at the municipality level and which benefit from the experience and infrastructure at the state level. The PCI Compact has developed an elaborate dashboard to show the ambitions and the progress under the three pillars[88].

Compacts

A Compact is a specific type of landscape initiative as promoted by IDH. The Compacts (also PPI compacts) refer specifically to the landscape-level agreement between public, private, and civil society stakeholders to make land more productive and improve livelihoods, in exchange for the protection of natural resources, most notably forests.

PPI/PCI approach

The PPI approach stands for Produce, Protect, Include and refers to the three dimensions for which development targets are developed in most landscape approaches. Instead of Protect, it is also sometimes referred to Conservation. The Source Up Platform is the place where all the PPI Compacts are gathered.

* PCI State-level Compact in Mato Grosso, PCI Sorriso (Mato Grosso), PCI Western Mato Grosso, PCI Barra do Garcas (Mato Grosso), PCI Tangorá da Serra (Mato Grosso), PCI Balsas (Maranhão state), Low Carbon Regenerative Commodity Production in the Cerrado biome (Tocantins, Brazil), Soy Chaco (Argentina), Food Systems, Land Use, and Restoration (Paraguay).

Table 8 gives an idea of the context in which the four PCI-aligned compacts within Mato Grosso are working. The four landscape initiatives cover a combined 4,19 million hectares and produce over 2 million tonnes of soy. Although each initiative has specific goals, they generally aim to increase the intensification and/or diversification of agricultural and cattle production, often on degraded land, whilst reducing illegal (or all) deforestation, increasing the rate of legal registration of farm landholdings, and linking farmers up with social support (e.g., school feeding programmes).

The partners are typically a mix of international partners (e.g., IDH), business (e.g., from the Forest Positive Coalition), local authorities, indigenous leaders, rural union leaders, producers, cooperatives, soy producers, and/or cattle ranchers.

Read more on the SourceUp Platform.

Brazil - Tocantins

Conservation International started a landscape initiative in Tocantins in 2021 with a focus on cattle and soy farmers. Various companies from the Forest Positive Coalition support this initiative. The initiative supported the farmers in adopting low-carbon, deforestation, and conversion-free practices through training led by Embrapa. The initiative has trained 66 soy and cattle farmers as well as 58 extension workers in farms across 24 municipalities, representing 88,000 hectares of land under improved management[94]. Tocantins as a whole, lost 374,056 hectares of natural vegetation in 2023, 95% to agriculture and pasture.[95] The State includes both moist (Amazon) forest and Cerrado. The State traded 2,9 million tonnes of soy in 2022, 43% of the volume exported to China, with a further 25% used domestically in Brazil.[96]

Read more on the SourceUp Platform.

Table 8 Context of the four PCI landscape initiatives within Mato Grosso, that are part of the state-wide landscape approach managed by the PCI Institute

Theme	Compact	Sorisso	Barra do Garços	Juara Valley	Western Mato Grosso
Overview	Start of Compact	2018	2019	2018	2025
	Area (hectares)[89]	929,360	836,314	1,267,780	5,144,780
	Notes	-	-	Includes three municipalities	Includes six municipalities
Agriculture	Main agricultural products covered	Pork, cotton, soy	Maize, soy, livestock	Dairy, livestock, Brazil nuts	Soy
	Traded quantity of soy in 2022 (tonnes)[90]	2,112,947	141,442	No data	No data
	Agriculture/pasture as a proportion of total area[91]	69%	42%	32%	40%
Environmental	Biome	Amazon/Cerrado	Cerrado	Amazon/Cerrado	Cerrado
	Deforestation and conversion 2022-23 (hectares)[92]	1,387	7,240	22,915	13,449
	Proportion of forest loss to agriculture/pasture 2022-23[93]	88%	97%	99%	84%

Notification

There are various projects and initiatives that have a strong connection with a specific soy-producing landscape but do not fully meet all the technical criteria to be a landscape initiative.

Soy Chaco

The Soy Chaco project in Argentina is an example of a project that has a landscape focus. The project connects Dutch buyers of soy credits to Argentine producers in a region with a large risk of land conversion. The actors involved created a landscape plan to restore an important ecological corridor in the area. The pilot project did not result in a long-term commitment and plan for local stakeholders and hence does not fully meet the landscape criteria. However, projects like this that link downstream actors to producers in risk regions, are important and meaningful.

Farmer First Clusters

The Farmer First Clusters by the Soft Commodities Forum in the Cerrado are good examples of how impact can be achieved with farmers at the landscape level. The Soft Commodities Forum has identified the municipalities with the biggest risk of land conversion for soy and has mobilized funding to support action in 6 areas: Integrated Farming, Restoration of Degraded Land, Sustainable Production & Forest Code Compliance, Surplus Legal Reserve, Green Finance, Expansion over Pastureland. By partnering with local experts and existing initiatives, the impact of the action can be scaled. Increasingly, the Farmer First Clus-ters play a role in landscape compacts.

The Responsible Commodities Facility

The Responsible Commodities Facility introduced in chapter 1, plays an important role within different landscape compacts. It supports the development of incentives for farmers to protect the natural vegetation on their land.

- **Brazil - Maranhão**

In the Balsas Region in Maranhão, 39 public and private actors signed a PPI Compact covering 12 municipalities in the region in 2020. The area has a high poverty rate (24%) and so the initiative has a strong emphasis on supporting farmers (including smallholders and family farmers) to grow responsible commodities (e.g. RTRS certified, Soja Plus), generate additional income through value chains[97], and conserve natural vegetation. The State, as a whole, traded over 2.7 million tonnes of soy in 2022, 68% of which was exported to China.[98] The State is in the transition zone between the Amazon and Cerrado biomes and lost 9,436,270 of natural vegetation in 2022[99].

Read more on the SourceUp Platform.

SourceUp Platform

SourceUp is a new collaboration platform for supply chain sustainability change makers. It is a place where landscape initiatives and companies willing to contribute to resilient landscapes meet each other.

The platform collects information from a broad range of landscape initiatives and reports about their goals and progress. The core criteria for mature landscape initiatives are used to assess the maturity of the landscapes.

Companies can identify landscape initiatives in their sourcing region and invest in specific projects that strengthen the sustainability of that landscape. In this way, they contribute to the resilience of their sourcing areas and address the sustainability risks in their chains.

Go to the SourceUp Platform.

4.2.2 Key elements in landscape initiatives

Landscape initiatives aim to address systemic sustainability challenges at the landscape level. It is a valuable contribution to existing solutions at the farm level (e.g. certification) or ad-hoc improvement projects (e.g. training in Good Agricultural Practices), in the sense that it can place such solutions in a bigger vision for the landscape.

The fact that landscape initiatives are created via a thorough bottom-up, multistakeholder process also means that the vision and corresponding KPIs for each landscape initiative differ. The following section provides an overview of key elements that can often be found in landscape initiatives in soy-producing countries.

- **Production**

Under the production pillar, the landscape goals are related to increasing productivity per hectare, certifying production under leading standards, producing on formerly degraded lands and strengthening the production and marketing of a broader range of different products. The table below reports on some KPIs for production and their progress for 3 of the soy landscape initiatives. The table includes the goals and targets for the entire state, and two of the three nested landscape initiatives within the scape (noting that the Juara Valley initiative does not have a major soy component, and that the Western Mato Grosso initiative is too recent to have data, see Table 9).

The selected KPI's illustrate the locally tailored nature of landscape approaches: there is no single KPI that is in common between all three. We can also envisage that the KPIs for production will be closest to the interest of the farmers in a landscape. Farmers in general have clear incentives to learn how to improve productivity and improve their income. Perhaps for this reason, all of the indicators listed above show progress toward the goals. A key insight from the initiatives is that it is possible to help bring degraded fields back into agricultural production. This can, in theory, substantially reduce the need for the conversion of new lands. Finally, the synergies between Production and Protection are clear: restoration (Mato Grosso and Barro de Garcos) and RTRS certification (Sorriso) can also improve landscape-level environmental sustainability.

Table 9 Selected **production** goals and achievements for the state of Matto Grosso and two of the landscape initiatives within this state

Landscapes Data points	PCI Mato Grosso		Barra do Garcas		Sorriso	
	Goal	Achieved in 2022	Goal	Achieved in 2021	Goal	Achieved in 2021
Restore degraded lands	2.5 million hectares of low-productivity pasture by 2030	543,000 hectares	Restore 100,000 hectares of degraded pastures by 2030.	5,692 ha.	-	-
Increase grain[117] production	Increase to 125 million tons by 2030	76.5 million tonnes	Increase the average grain productivity by 8% by 2030	No data	-	-
Increase RTRS soy production	-	-	-	-	Increase the area of soybean production under RTRS certification to 150 thousand hectares by 2024	109,000 hectares

* Note that in Brazilian terminology, 'grains' include soy.

- **Protection/Conservation**

The Forest Code obliges rural landholdings to be registered on the Cadastro Ambiental Rural (CAR). For various reasons, including bureaucratic capacity and farmer reluctance, this is often not completed. Furthermore, landholdings must retain a proportion of their landholdings as natural vegetation (known as 'Legal Reserves', the proportion of which is specified for each biome) as well as protecting specific areas (APPs) such as watersheds and steep slopes).

For these reasons, the protection/conservation pillar often focuses its goals on the CAR-registration process, and the accompanying compliance program, Programa de Regularização Ambiental (PRA), as fundamental elements to long-term sustainability. Another topic is the elimination of illegal deforestation and the identification of ways to compensate farmers for maintaining Legal Reserves greater than that specified by the Forest Code. The table below reports on some KPIs for protection and their progress for 3 of the soy landscape initiatives.

The collection of data for the protection KPIs relies largely on data points that are provided by (local) government institutions (e.g. for CAR registration) and institutions that monitor land conversion (INPE / Mapbiomas). The table above shows however that despite ambitious targets for land regularization, the reality is complex. Experts involved in the landscape approaches indicate the lack of capacity at the level of the state to validate the CAR is a barrier to achieving progress. In addition, it can also be seen that illegal deforestation continues despite targets for this topic, showing the immense complexity of tackling this problem.

- **Inclusion**

The inclusion pillar focuses on including local communities and smallholder farmers in local or regional markets. In most compacts projects are started in which these farmers are supported to produce new crops and/or start a new activity (e.g. bee-keeping, fisheries, livestock production). Table 11 reports on some KPIs for inclusion and their progress for 3 of the soy landscape initiatives.

Table 10 Selected **Protection/Conservation** goals and achievements for the state of Matto Grosso and two of the landscape initiatives within this state

Landscapes Data points	PCI Mato Grosso		Barra do Garcas		Sorriso	
	Goal	Achieved in 2022	Goal	Achieved in 2021	Goal	Achieved in 2021
(SIM)CAR registration	Register 90% of the plots in CAR in 2024	71.4%	100% of rural properties registered in SIMCAR by 2024	77%	100% of rural properties registered in SIMCAR by 2019	83%
CAR validation	Validate 90% of plots in CAR in 2024	19%	Validate 50% of the CAR by 2024	2%	Qualify 100% of the CAR for later validation by SEMA-MT by 2019.	15%
Halt illegal deforestation	Halt illegal deforestation by 2030.	78.7% of deforestation was illegal.	Eliminate illegal deforestation by 2030	145,121 ha	Eliminate illegal deforestation by 2024	100% of deforestation (5 km2) was legal.

Table 11 Selected **inclusion** goals and achievements for the state of Matto Grosso and two of the landscape initiatives within this state

Landscapes Data points	PCI Mato Grosso		Barra do Garcas		Sorriso	
	Goal	Achieved in 2022	Goal	Achieved in 2021	Goal	Achieved in 2021
Provide rural extension to family farms	-	-	-	-	Increase government technical assistance to 290 families by 2024.	103 families (from a starting point of 49 in 2015)
Improve access to finance for family farms	Increase access to credit through Pronaf lines to R$ 1.3 billion per year by 2030.	R$ 1,925 billion (from a starting point of R$ 882 million in 2015)	-	-	-	-
Diversify production	-	-	Increase production of fish, pork, milk, honey & tourism	-	Increase the production of honey, fruits, horticulture and milk by 50% by 2024	Milk and fruit production have doubled since 2015. Production of honey and horticulture has declined.

The KPIs for inclusion differ tremendously between the landscape initiatives and often the number of people impacted by specific interventions, such as training in beekeeping, is relatively small. However, especially in soy landscapes where large estates are often the dominant players, it is extremely important that smallholder farmers and local communities are included in the vision for the landscape. The interventions typically include access to government programmes (e.g., school meal programs and market approaches, such as diversifying production).

As for the other pillars, the KPIs for Inclusion vary significantly between initiatives. One interesting point to note is the synergy between federal (e.g., Pronaf) and state poverty alleviation activities (e.g., technical extension to smallholders), which seem to be readily incorporated into landscape initiatives.

Summary of findings

Direct attribution to the landscape initiatives is both practically and theoretically challenging, because many other factors are at play. For example, some of the increase in production shown in Table 9 might have occurred in the absence of a landscape initiative, simply due to growing demand. Equally, the rates of illegal deforestation might have been higher without the initiatives (Table 10). There is also an issue of time – many landscape initiatives that include soy are still in their early years, and more time is needed before firm conclusions can reasonably be drawn.

With those caveats in mind, it appears at face value that certain issues, such as illegal deforestation and the validation of CARs, remain challenging, also in the context of a landscape approach. Although the example of Mato Grosso shows that, because of the integrated landscape vision, finance could be attracted to support enforcing the Forest Code and supporting the CAR validation process. Other goals, such as registration of landholdings on CAR and increasing production, are advancing more rapidly. How the different landscape initiatives respond to these issues is likely to be an important factor in their long-term success.

Finally, the data available on the progress of landscape approaches is often lacking. The PCI Initiative stands out in this regard, publishing annual updates of progress against its agreed targets.

4.2.3 Success factors of landscape initiatives

Landscape initiatives are a rather new instrument in soy and beef-producing landscapes but have been employed in palm oil, coffee, and cocoa-producing landscapes. From the initial experiences in soy, the first lessons can already be drawn about the success factors of landscape initiatives. The global study by CDP, TFA, and Proforest is a valuable resource in this regard[100].

- **Government involvement**

Frontrunning organizations involved in landscape initiatives, such as Proforest, Tropical Forest Alliance, and IDH, mention the willingness and commitment of the (local) government as a key success factor for landscape initiatives. The (local) government's role in landscape initiatives for soy is essential for establishing and enforcing policies that support sustainability. By participating, governments help create a framework for responsible production, ensure compliance, and provide broader support, which enhances the effectiveness of these initiatives. Their involvement also helps align various stakeholders and strengthens the overall impact on social and environmental outcomes. The governance created at the state level in Mato Grosso has proven highly beneficial for the creation of new initiatives at the municipality level. What is less clear is why the State-level institutionalization of the landscape approach that has occurred in Mato Grosso has proven more difficult to attain elsewhere, and how resilient the commitment is as governments, and their policy priorities, change.

- **Multistakeholder participation**

In addition to the involvement of the government, experts mention that the inclusion of a broad range of different stakeholders, such as farmers, NGOs, smallholder groups, Indigenous communities, knowledge institutes, and government agencies, is also crucial for the long-term

Core criteria for landscape maturity

In the section above it was highlighted that due to the local character of landscape initiatives, the ambitions and KPIs differ substantially from one initiative to the other and are therefore also hard to compare.

In order to help companies and stakeholders assess the quality and maturity of a landscape initiative, the main stakeholders in this field organised themselves and created the core criteria for mature land-scape initiatives.

These core criteria are based on the CDP Maturity Matrix for landscape initiatives. It focuses on 4 main criteria: scale, multistakeholder platform or process, collective goals and actions, and transparent reporting or information system.

In the core criteria for mature landscape initiatives these four criteria are further enhanced. This system is even more precise and allows stakeholders to assess the maturity of the landscape with more precision.

Read more:

- CDP maturity matrix
- Core criteria for mature landscape initiatives

success of the landscape initiative. The key is that all stakeholders are involved from the start and are not stepping in later, when the process has already taken off. By involving all relevant stakeholders, initiatives can address local challenges more effectively, foster shared responsibility, and potentially create more impactful, long-term solutions. It also helps ensure that the initiatives are inclusive, equitable, and more likely to succeed in achieving positive social, economic and environmental outcomes. One of the lessons learned from Mato Grosso is that it is important that the local solutions developed by stakeholders are aligned with higher (in this case, State) level objectives.

- **Capacity for facilitating the process**

The setup of a landscape initiative and the development of a joint vision and plan for the landscape can take around two years. It requires strong facilitation skills and a clear governance structure to bring and keep all stakeholders on board.

There must be a 'neutral' stakeholder involved with the organizational and institutional capacity to facilitate such a process and at the same time, the stakeholders involved also must have the capacity to delegate someone to participate in the process. Although extremely important and conditional to a good outcome, it is not always easy to acquire funding for this initial phase.

- **Focusing on the right areas**

In addition to having a strong multistakeholder process, government involvement, and clear governance, there must be a strong consensus amongst NGOs, knowledge institutes, financing organizations, and companies, that the focus is on the regions that are at risk of deforestation and conversion. This is crucial to mobilize investments from the private sector to work in that specific landscape. These investments can potentially be quite diverse in nature, not all of them will be solely focused on deforestation, reflecting the different outcomes sought under the PCI approach. What is less clear is how the tensions between different levels of investment in different goals are managed.

- **Buy-in from the private sector**

Buy-in from the private sector is also very important. Both for the initial start-up phase as well as for the actual interventions, financial support is needed. Companies that trade in agricultural commodities can additionally provide a market for sustainable produce, which can act as a long-term incentive to farmers to adopt sustainable methods. The reasons for companies to contribute to landscape initiatives are outlined in the next section.

4.2.4 Company engagement in landscape initiatives

Landscape approaches attract support from both international and domestic companies. The companies can be in different places in the supply chain – including processors and exporters through to retailers.

Given the challenges of tracing soy, landscape initiatives provide a means of reducing the risk that soy, associated with deforestation and conversion, ends up in a company's supply chains. This is particularly true of international companies (e.g., overseas retailers) where almost all of the soy in their supply chains is embedded. These companies mention, for instance, that since 50% of the soy production is from the Cerrado and a substantial volume from Mato Grosso, that they can assume that soy produced in those regions is in their value chains, without needing to trace it.

Companies also mention that climate change already makes these regions more vulnerable to crop failure, and this will become worse over time. By investing in improving soil health, yields, and water resilience in key landscapes, the companies feel they are mitigating sustainability risks, contributing to improvement on the ground, and investing in their future security of supply. More generally, the broad remit of the PCI approach can be helpful for companies as they can be investing in a sustainable supply, zero deforestation and poverty reduction within the same coherent package.

Amongst international companies, the front runners in investing in landscape approaches are generally members of the Forest Positive Coalition (FPC). FPC members calculated the land use footprint linked to their sourced volume of (embedded) soy and

committed to investing in landscapes for an equivalent amount of these hectares. These companies believe this is an effective route towards deforestation-free supply chains and a forest-positive future. The FPC works closely together with the Soft Commodities Forum (SCF) and finances activities that are complementary and well-aligned with the work of SCF in their Farmer First Clusters.

Companies that are not involved in landscape initiatives give several reasons for their hesitation. These include uncertainty about how such initiatives support legal compliance, reduce sustainability risks, especially when supply chains are not traceable, or meet customer demands, such as lowering carbon footprints. For instance, companies importing soy into the EU are not guaranteed compliance with the EUDR just by investing in or sourcing from a landscape. It is also unclear how landscape initiatives fit within regulations like the CSDDD, or how companies can report their involvement under the CSRD. Additionally, frameworks like the SBTi do not currently recognize investments in landscape initiatives.

On top of all this, many companies in the feed and food sectors are still unfamiliar with what landscape initiatives are and how they work. Even companies that do invest in landscape initiatives report that these questions are difficult to negotiate internally, and that the lack of traceability, which would demonstrate how important a landscape is to a company's supply, are significant hurdles to overcome in gaining internal approval for investments in landscapes.

Developing pathways to bring on board companies that are not committed to a forest-positive future and that are more focused on compliance would therefore seem to be an important way of enabling greater business investment in landscape approaches. It is unlikely that landscape approaches could readily be incorporated into existing regulations (e.g., the EUDR) until deforestation in those landscapes reaches close to zero.

There is perhaps more potential for integrating landscapes into broadly recognized voluntary frameworks. Some of the companies and organizations that already invest in landscape initiatives are working with the Accountability Framework initiative (AFi), ISEAL, SBTN and others, to recognize the importance of landscape initiatives for tackling systemic sustainability challenges. The reverse is also true, whereby landscape initiatives can explicitly seek to achieve goals of compliance with other initiatives, as demonstrated by the KPI for RTRS certification in the Sorriso initiative (see Table 3).

However, it is worth repeating that it is still relatively early days for landscape approaches in soy. Corporate engagement is likely to change as the initiatives themselves achieve more, as new investment mechanisms evolve, and as companies rethink their relationships with supply due to climate change.

5 Conclusions

Following the analysis of global trends in soy production and consumption in Chapter 1, the uptake of certified soy in the EU27+ in Chapter 2, country-level developments in Chapter 3, and landscape initiatives in Chapter 4, this final chapter presents the main conclusions of the report.

5.1 Increasing sustainable soy production and uptake

Global soy production continues to grow, driven primarily by rising demand for animal feed. This growth is largely due to the expansion of harvested area rather than improvements in yield per hectare, increasing pressure on ecosystems such as the Cerrado, the Amazon, the Pampas, and the Gran Chaco.

Brazil, the United States, and Argentina remain the leading producers. China remains the world's largest importer (around 60% of global soy imports), followed by the EU with approximately 35 million tonnes of soybeans, meal, and oil (non-converted) annually. Between 2019 and 2023, EU soy imports declined slightly. Brazil's share of EU imports increased, while in 2023, the U.S. regained some market share at Argentina's expense, reflecting Argentina's 43% production drop caused by La Niña-related droughts.

There has been a significant rise in the volume of soy certified under FEFAC SSG compliant schemes, which grew by 67% from 2019 to 2023. Notable increases have been seen in certified production under the SSAP standard from the United States, RTRS, CRS, and Donau Soja. This corresponds to an increased uptake of soy under these standards, predominantly under credit-based systems.

In the EU27+, the uptake of FEFAC SSG compliant soy hovered around 40% of total soy use between 2018 and 2022, rising to 54% in 2023. Countries such as the Netherlands, Belgium, Switzerland, and Sweden have reported rather constant high uptake of certified soy. In the Netherlands and Belgium, predominantly via credits, and in Sweden and Switzerland, via physical solutions. The growth over the years is especially coming from improved tracking of SSAP soy from the U.S. towards southern Europe. Denmark and Germany show an increase in uptake, which is a result of sector agreements to source FEFAC SSG compliant soy.

5.2 Broadening approaches and the need for finance

Certification is increasingly complemented by other voluntary and regulatory approaches. Among these, landscape initiatives in soy-producing regions show potential to scale sustainable sourcing, by moving beyond farm-by-farm interventions. This report highlightsdevelopments in Mato Grosso, Brazil, where early progress includes increased use of degraded land, land registration, and better links between smallholders and government support services. However, more complex issues—such as stopping illegal deforestation and verifying land tenure—remain challenging since it is connected to government capacity to enforce the forest law and validate CAR registrations.

Regulatory developments are set to accelerate change in supply chains. The EU Deforestation Regulation (EUDR), due to take effect on 30 December 2025, will require geolocation of all soy production plots and due diligence to ensure no deforestation and legal compliance. This poses particular challenges for supply chains reliant on credits or lacking traceability, which are key characteristics for almost all soy supply chains. A similar UK regulation is pending secondary legislation and may also trigger supply chain shifts towards guaranteed deforestation and conversion-free soy. The expanding availability of FEFAC SSG compliant soy is encouraging because this also poses options for physical supply chains. However, additional efforts are needed to fully decouple soy production from deforestation and conversion, which can be done by aligning approaches towards sustainable, deforestation and conversion-free soy in the physical supply chain. Landscape initiatives and multistakeholder efforts are also gaining traction in key biomes and typically focus on three interconnected pillars: Produce, Protect/Conserve, and Include (PCI). While it is still early to assess their full impact, landscape approaches align well with corporate ESG strategies and can enable bulk sourcing of deforestation- and conversion-free soy.

Several downstream companies are already investing in these landscapes as an effective route towards deforestation-free supply chains and a forest-positive future. Others face uncertainties, particularly regarding how such efforts align with emerging regulations (CSDDD, CSRD, EUDR) and voluntary protocols. Initiatives such as the Accountability Framework Initiative (AFi), ISEAL, and Science Based Targets for Nature (SBTN) can play a role in formally recognizing the contribution of landscape initiatives. A further challenge is that landscape initiatives take time to be developed and to deliver results, hence requiring a long-term commitment that can be challenging for companies to guarantee.

Innovative financial tools can strengthen landscape initiatives. Blended finance, preferential loans for farmers protecting native vegetation, and Payment for Ecosystem Services are emerging as important mechanisms. New financial instruments such as the Responsible Commodities Facility and the revived Amazon Fund offer promising models.

5.3 Improving impact measurement and transparency

One of the main areas where further research is needed is the demonstration of the on-the-ground attainments of the various solutions, such as certification, landscape approaches, or clean supplier approaches. It often remains unclear what the actual attainments are, in terms of hectares of nature protected, reduction of chemicals used, the number of workers protected, and so on. Certification systems barely report this, and landscape initiatives also struggle to consistently and transparently share their actual impact on key performance indicators, the PCI Institute being a notable exception. With better and more reliable data, companies may feel more confident and motivated to invest in these solutions.

Measuring and reporting attainments is an essential first step. The next step is to formally assign impact to the initiative. This requires a scientific approach and is important in strengthening the investment case, and potentially critical in gaining alignment between the above-mentioned approaches, regulation and voluntary protocols.

5.4 Engagement over disengagement

Regulatory changes will likely reshape soy supply chains in the coming years. Companies face a choice: disengage from high-risk areas or remain actively involved. From a risk management perspective, diversified sourcing, including from risk regions, can help buffer supply disruptions caused by climate change or geopolitical developments, such as shifting U.S. trade policies.

From a sustainability standpoint, the case for engagement is even stronger. Continued interaction with soy-producing areas in the Amazon, Cerrado, and Gran Chaco is essential, given their global significance for climate regulation, water cycles, and biodiversity. The success of sustainable soy depends on collaboration with producers in these landscapes, not withdrawal from them.

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Annex 1: Methodology

The methodology used to calculate the FEFAC SSG compliant soy was first developed in 2018[101] and updated in the 2020 report[102]. This section reflects an overview of the method.

A1.1 FEFAC SSG compliant soy

Data sources

The Eurostat database EU Trade Since 1988 by HS 2, 4, 6, and CN8 is used to retrieve imports and exports of direct soy and embedded soy to and from the EU27 and individual European Union countries. In addition, the ITC trade database and Comtrade are used to retrieve imports and exports of direct soy and embedded soy from the United Kingdom, Switzerland, and Norway.

The FEFAC SSG compliant standards and the European feed associations provided input about the uptake of certified soy. In general, the feed associations reported one overall figure of FEFAC SSG compliant soy. A few feed associations were also able to report on the uptake of soy under specific FEFAC SSG compliant standards. RTRS, CRS, and SSAP were able to report on the final destination of the certified soy, complementing the insights from feed associations.

Calculations

The reference volume for all calculations is the 'soybean meal available for consumption'. This reference value is calculated by: *Domestic soybean meal production + net import direct of soybean meal + net import embedded soybean meal.*

Soybeans are converted into soybean meal using a crushing ratio of 0.8. The following HS codes were used for direct and embedded soy. Note that soybean oil volumes are not included in the calculations and are only used in the main infographic showing the import of soybean products imported to the EU.

For the calculation of the embedded soy linked to the animal-based products, RTRS conversion factors and the conversion factors[103] presented by Robert Hoste et al.[104] were applied. For the import of animal-based products, RTRS conversion factors were used. The Hoste conversion factors are used for exports of animal-based products from specific European countries. Not all countries were included in the Hoste study. For those countries, the average value of the conversion factors for each category were applied.

Uptake of FEFAC SSG compliant soy at EU27+ level

The uptake of FEFAC SSG compliant soy is calculated using the information from the FEFAC SSG compliant soy standards. These standards provided information on the total certified responsible soy volumes and the volume exported to EU27+. The aggregated volume of certified soybean (meal) exported to Europe was used to calculate the overall percentage of FEFAC SSG compliant soy at the EU27+ level.

Uptake of FEFAC SSG at country level

The feed associations are the main source of information for calculating the uptake of FEFAC SSG compliant soy at the country level. RTRS, CRS, and SSAP provided country-specific data. This data was used to calculate the volume of FEFAC SSG procured by other (non-feed) market actors. To avoid double counting, the data from feed associations is subtracted from the volume reported by schemes to calculate the part that has been sourced by other market actors.

Product	HS-code	Description
Soybeans	1201	Soya beans, whether or not broken
Soybean meal	2304	Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of soya-bean oil
Soybean oil	1507	Soya-bean oil and its fractions, whether or not refined (excl. chemically modified)
Beef	0201	Meat of bovine animals, fresh or chilled
	0202	Meat of bovine animals, frozen
Pork	0203	Meat of swine, fresh, chilled or frozen
Poultry	0207	Meat and edible offal of fowls of the species Gallus domesticus, ducks, geese, turkeys and guinea fowls, fresh, chilled or frozen
Cheese	0406	Cheese and curd
Other dairy products	0401	Milk and cream, not concentrated nor containing added sugar or other sweetening matter
	0402	Milk and cream, concentrated or containing added sugar or other sweetening matter
	0403	Buttermilk, curdled milk and cream, yogurt, kephir and other fermented or acidified milk and cream, whether or not concentrated or flavoured or containing added sugar or other sweetening matter, fruits, nuts or cocoa
	0404	Whey, whether or not concentrated or containing added sugar or other sweetening matter; products consisting of natural milk constituents, whether or not containing added sugar or other sweetening matter, n.e.s.
	0405	Butter, incl. dehydrated butter and ghee, and other fats and oils derived from milk; dairy spreads
Eggs	0407	Birds' eggs, in shell, fresh, preserved or cooked
	0408*	Birds' eggs, not in shell, and egg yolks, fresh, dried, cooked by steaming or by boiling in water, molded, frozen or otherwise preserved, whether or not containing added sugar or other sweetening matter

A1.2 Hotspot mapping

The hotspot mapping in chapter 4 is a new element in the European Soy Monitor. Below, the method used is briefly introduced.

Data sources

The MapBiomas platforms for Brazil and Argentina have been used to identify the conversion hotspots in both regions. MapBiomas is a large multistakeholder initiative that includes various NGOs, institutes, governmental agencies, and companies. This data source was preferred above others since it is available for both countries in the assessment. We used country-specific data for Brazil, for instance, the data by INPE and TerrasBrasilis, to verify the results. In addition, the Trase platform was used to identify the main soy trade flows from Brazil and Argentina to Europe.

Calculations

The relative and absolute forest loss in the period 2019-2023 was calculated using the statistical data about forest cover from MapBiomas Brazil and Argentina. This shows the states in which most hectares were converted and in which the biggest relative part of the land was converted into agriculture.

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