# The Positive Momentum

of Sustainable U.S. Soy





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# The State of Sustainable U.S. Soy

I'm excited as I sit down and reflect on the sustainability of U.S. Soy. Being a part of this industry for many years, I feel the forward momentum now more than ever. In particular, I'm encouraged by this past year's progress as an indicator of future growth for verified sustainable U.S. Soy. Farmers continued to produce a reliable supply of high-quality, sustainable U.S. Soy. More companies than ever before chose U.S. Soy, verified sustainable through the U.S. Soy Sustainability Assurance Protocol (SSAP) this past year, with a nearly 10% increase in SSAP-verified shipments. Many companies transferred the SSAP certificate to their customers as proof of U.S. Soy's sustainability. Companies that use sustainable U.S. Soy in their products communicated the use on their packages and marketing materials, with 21 companies in 11 countries adding the "Sustainable U.S. Soy" label to their packaging in 2023. The momentum U.S. Soy has been building is delivering real solutions for our world.

The positive momentum isn't slowing down, either. U.S. soybean farmers are leading the charge and embracing new learning opportunities for their family farms. Ninety-seven percent of U.S. soybean farms are family farms, and they are strongly motivated to improve the land and pass it down to the next generation. U.S. farmers are investing in production research and other learning opportunities with the spirit of continuously improving the way they farm. That conviction to improve has cascading impacts across the industry.

In my role, I have had the opportunity this year to personally visit with many farmers and businesses responsible for bringing sustainable U.S. Soy to the world, and also meet with the companies that choose sustainable U.S. Soy for their products. The supply chain and the customers share a desire to understand one another and work together for sustainable solutions. This communication and partnership drive further momentum for sustainable U.S. Soy and makes me eager to see the possibilities for U.S. Soy in the future.

In this report, you'll find an account of the U.S. Soy industry's efforts over the past year to produce, verify and deliver sustainable U.S. Soy to the world. U.S. soybean farmers have a dedication and commitment to sustainability, and our goal is to help you feel confident that U.S. Soy is the sustainable solution for you. I hope you enjoy learning more about U.S. Soy's sustainability and join in the positive momentum across the industry in choosing U.S. Soy to deliver on your sustainability commitments, advance the United Nations Sustainable Development Goals and elevate your brand's preference.

Thank you for your interest in U.S. Soy!



#### **SECTION I:**

Verifying U.S. Soy's Sustainability — Momentum with the SSAP



# The U.S. Soy Sustainability Assurance Protocol — The Why and What

Product sourcing has become a crucial part of many companies' commitments to sustainability, and more than 75% of Fortune's Global 500 companies publish sustainability reports. Sourcing requirements focus on environmental and social issues and lead to positive impacts on business performance. The U.S. Soy Sustainability Assurance Protocol (SSAP) was created to provide credible information to give buyers of U.S. Soy confidence that the product they are purchasing is sustainably produced.



75% of Fortune's Global 500 companies publish sustainability reports.



The SSAP is the tool that verifies sustainable soy production on U.S. soybean farms. The SSAP outlines the practices that define sustainable soy. It's a national system that uses sustainability and conservation principles to aggregate U.S. Soy farmers' contributions to improved environmental, social and economic sustainability outcomes. To ensure a robust, thorough and results-driven approach, the Protocol was built through a multi-stakeholder process including participants across the entire value chain.





# The SSAP's Four Directives Shape U.S. Soy's Sustainability

**Biodiversity and High Carbon Stock.** Soybeans are not produced on wetlands, grasslands, forests and other designated protected areas to protect and enhance environmental biodiversity.

**Production Practices.** Production practices work to enhance the environment and protect natural resources while increasing production efficiency.

**Public and Labor Health and Welfare.** The U.S. public and its workers are protected under U.S. laws, providing for fair labor standards, equal employment opportunities, abolition of forced labor, Clean Water Act laws, etc.

**Continuous Improvement.** Sustainability is more than a result; it is a process. U.S. Soy farmers become more efficient and environmentally sound each year by continuously improving their farming practices.

U.S. farmers' processes and practices contribute to improving environmental, social and economic sustainability outcomes over time.

#### Recognized & Positively Benchmarked with Global Sourcing Standards

- European Feed Manufacturers' Federation (FEFAC) 2021 Soy Sourcing Guidelines
- Global Seafood Alliance Best Aquaculture Practices
- Tokyo 2020 Olympic Procurement Committee
- SAI Platform's Farm Sustainability Assessment 3.0 (FSA) Silver Equivalent
- GlobalGAP

### The SSAP's Evolution A DECADE OF SSAP-VERIFIED U.S. SOY

#### 2012

Questions began to arise in Europe about the sustainability of how soy was being produced in different countries around the world. In a proactive response to these concerns, Soybean Export Sustainability LLC was formed April 26 of that year and the development of the SSAP began.





### 2014 The first

The first SSAP certificate was issued. Continuous Improvement Goals were developed and announced by U.S. Soy and the SSAP was updated.



# SUSTAINABLE SU.S. SOY.



#### 2015

The SSAP was positively benchmarked with the European Feed Manufacturers' Federation's (FEFAC) Soy Sourcing Guidelines. Within the same year, the "Sustainable U.S. Soy" label was trademarked and launched.

#### 2016

As more companies began to make commitments to sustainable sourcing, the SSAP was updated and SSAP-verified shipments continued to grow, expanding into new markets. The first "Sustainable U.S. Soy" License Agreement was signed by Wei Chuan Foods Corporation of Taiwan.





#### 2017

The SSAP was included in the Global Seafood Alliance Best Aquaculture Practices feed mill standards. Shipments of SSAP-verified U.S. Soy reached 10,000,000 metric tons.

#### 2013

Multi-stakeholder input and review followed, and the SSAP was introduced to the U.S. industry at the U.S. Soy Global Trade Exchange Conference. In the same year, the SSAP was introduced to the Netherlands Feed Industry.

#### 2018

Eight companies signed the License Agreement to use the "Sustainable U.S. Soy" onpack label, and SSAP-verified shipments continued to grow.







#### 2019

The SSAP was approved by the Tokyo 2022 Olympic Committee as part of the sustainable sourcing code for their Olympic Games, just one part of a more extensive relationship between U.S. Soy and Japan—a nation where soy products are broadly used. The SSAP-Renewable Energy Directive (RED) is also approved by the European Commission and launched, and 10 additional companies signed the "Sustainable U.S. Soy" License Agreement.

#### 2020

Twenty companies signed the "Sustainable U.S. Soy" License Agreement, doubling the number of companies enrolled. Shipments of SSAP-verified U.S. Soy topped 21,299,232 metric tons.



#### 2021

FEFAC released their 2021 Soy Sourcing Guidelines. SSAP was positively benchmarked with the FEFAC Guidelines, achieving the desired criterion on conversion-free soy. Twentythree more companies signed the License Agreement to use the "Sustainable U.S. Soy" label, bringing the licensee total to 65.

#### 2022

The SSAP achieved Silver Level status with the Farm Sustainability Assessment from the Sustainable Agriculture Initiative. Transferable SSAP certificates were launched, enabling exporters of SSAPverified U.S. Soy to transfer certificates to their international customers four times down the value chain. "Fed with Sustainable U.S. Soy" label was launched to promote products such as poultry, pork or shrimp fed with sustainable U.S. Soy. Shipments of SSAP-verified U.S. Soy doubled from the 2020 shipments amount to more than 40,605,328 metric tons.



#### 2023

Record SSAP shipments. Transferable certificates available. The SSAP received temporary QS acceptance recognizing the exclusion of both legal and illegal deforestation, as well as compliance with other economic, ecological and social sustainability criteria.1

### The SSAP Year in Review

With a heightened focus on sustainability over the last 15 years, the U.S. soybean industry has made tremendous progress in documenting, verifying and sharing its sustainability story. The momentum has been building, and 2023 brought significant advancements, including new milestones, new updates to the SSAP, new tools for buyers of sustainable U.S. Soy and an overall growth of interest in and purchase of SSAP-verified U.S. Soy.



- The SSAP was reviewed and updated in June 2022, marking Version 3.2 of the Protocol.
- Transferable certificates officially launched in June 2022.
- A new "Sustainable U.S. Soy" label ("Fed with Sustainable U.S. Soy"), promoting soy-fed meat, was released.





# Recent Updates Strengthen the SSAP Focusing on Actions for Farmers

In June 2022, the SSAP was reviewed and updated, making for the sixth version of the Protocol.

The SSAP is updated biennially or as needed. Updates begin by evaluating any gaps identified during the benchmarking processes and through any feedback received from stakeholders since the last update. The most recent Farm Program is assessed to determine any missing information that should be included. The SSAP is reviewed to ensure all previously-included items are accurate. Soy industry organizations are contacted to uncover any new requirements that could impact the SSAP. Members of the Sustainability Advisory Committee are engaged throughout the update.

Most of the recent updates centered around U.S. federal, state and local laws and included ensuring farmers purchase seed from trustworthy suppliers and train all employees to handle hazardous materials properly. The update also encouraged optimizing applications and practices through precision technologies as well as developing a Nutrient Management Plan.

#### Highlights of the SSAP Updates



Farmers obey federal, state and local laws



Ensure seed is purchased from trustworthy suppliers



Train employees to handle hazardous materials properly



Encourage precision technologies and Nutrient Management Plans

### Debut of Transferable SSAP Certificates Makes Sustainability Attainable to More Customers

In 2022, Soy Export Sustainability (SES) created a new process to make SSAP certificates transferable. Transferable certificates were developed in response to stakeholder feedback and addressed the need for customers further down the value chain to demonstrate their commitment to purchasing SSAP-verified soy.

With SSAP transferable certificates, exporters of U.S. Soy can now transfer certificates to their international customers. And those international customers can transfer certificates as they sell SSAP verified soy through the value chain. SSAP shipment certificates can be transferred to U.S. Soy customers four times after the point of export. The system will also allow for transferability based on processing conversions into various types of soy including meal, oil, flour, and hulls.



With new transferable SSAP certificates, exporters can transfer proof of U.S. Soy's sustainability to customers.

#### The Value of SSAP Transferable Certificates

With transferable SSAP certificates, exporters can improve the transparency and record keeping of their sustainability efforts while enabling customers of U.S. Soy to demonstrate a verifiable commitment to sustainability. Customers can benefit by receiving an SSAP certificate in their name for the exact amount and the exact product type of their global deliveries. These can be used for customers' sustainability reporting down the value chain. To date, 56 customers have received transfer certificates since the platform launch.

# Understanding the "How" of Transferable Certificates

SSAP Transferable Certificates helped us build a good standing for dealing with reliable and sustainable sources of raw materials.

We are using the SSAP Transferable Certificate to support our Business Continuity Plan, a primary requirement of one of our major restaurant accounts."

**Apena Food Products** 

Binondo, Manila, Philippines

#### Here's the process for exporters:



Register as an exporter on the SSAP Platform (USSES.org/register).



Request a Sustainable Allocation for the current marketing year.



Create a shipment-specific SSAP certificate for U.S. Soy.



Transfer all or part of any shipment certificate to customers as they purchase SSAP-verified soy.

#### And it's just as straightforward for customers:



Register as a customer on the SSAP
Platform (USSES.org/customer-register/)
or work with a USSES.org registered
supplier to set up a customer account.



As SSAP-verified soy is purchased, customers request a SSAP Transferable Certificate from the supplier.



Certificates are received electronically in the SSAP Platform after the supplier transfers a certificate.



When SSAP-verified soy is sold, sellers can transfer an SSAP certificate to the buyer.

For more information on SSAP Transferable Certificates, check out this instructional video —



# "Sustainable U.S. Soy" On-Pack Label Increases Globally in 2023

In 2023, animal protein companies now have a solution to label their products with the new "Fed with Sustainable U.S. Soy" on-pack label. This label is used to promote products, such as poultry, pork or shrimp fed with sustainable U.S. Soy. At least 60% of the soy in the ration must be sustainable U.S. Soy, verified with an SSAP certificate.

The "Sustainable U.S. Soy" on-pack label, announced in 2015, was made available to international companies at no cost. It is used to promote products produced using SSAP-verified soy. Products like food or animal feed must contain at least 60% sustainable U.S. Soy, while whole soybean products must contain at least 90% sustainable U.S. Soy for the label to be used.

Label users must maintain documentation and details to track an annual mass balance calculation to meet the criteria mentioned above. Before using the no-fee label, a License Agreement must be signed by U.S. Soybean Export Council (USSEC) and the licensee.



93 companies and more than 1,000 products use "Sustainable U.S. Soy" on-pack labels.



The "Fed with Sustainable U.S. Soy" on-pack label is used to promote animal products fed with SSAP-verified soy.



The "Sustainable U.S. Soy" label, announced in 2015, is used to promote products produced using SSAP-verifed soy.

Here are a few of the 93 companies that use the "Sustainable U.S. Soy" on-pack label:















Today, this label is in use by 93 companies to identify soy products made with SSAP-verified soy. The brand can be seen on 1,000 products around the world in countries such as:

Belize Ecuador Panama

China El Salvador Philippines

Colombia Guatemala Taiwan

Costa Rica Japan Vietnam

Dominican Republic Mexico



### Sustainable U.S. Soy Reaches New Heights with Ichiban Soymilk and Vietnam Airlines



Ichiban Soymilk, manufactured with sustainable U.S. Soy, was one of nine high-quality U.S. products featured on a non-stop Vietnam Airlines flight from Ho Chi Minh City to San Francisco, California. Thai Corp International's Ichiban Soymilk was included in a specially designed in-flight menu to celebrate the first anniversary of Vietnam Airlines' first direct flight from Vietnam to the U.S. The introduction of "Sustainable U.S. Soy"-labeled Ichiban Soymilk bottles comes after Thai Corp unveiled plans last year to refresh the packaging for their soy-related brands to include the "Sustainable U.S. Soy" label. This opened up new sales and marketing opportunities for Thai Corp by allowing it to differentiate the brand from its other products.

Learn more about how SSAP-verified soy is brought to burgeoning markets.



### "Sustainable U.S. Soy" Lands in Japan's 7-Eleven Convenience Stores



Seven & i Holdings Co., Ltd. has entered into a partnership with U.S. Soy, and now customers in Japan's 7-Eleven stores can enjoy individually-packaged tofu bars carrying the "Sustainable U.S. Soy" logo. In 2023, four Seven Premium tofu bar flavors became the first company products to use the logo. Soybeans are essential ingredients in traditional Japanese foods and combined with the value Japanese consumers place on sustainable production, these products help 7-Eleven support the busy lifestyle of the Japanese people, who demand a solid connection to their culture and environmental responsibility.

Learn how 7-Eleven promotes the value of SSAP-verified soy products.



## From the Customers — Sustainable U.S. Soy Identifiers in Action

We pay attention to the current trend where consumers are looking for food and beverage products that are healthy, sustainable and environmentally friendly. The use of the "Sustainable U.S. Soy" logo in our tempe product packaging is expected to help us penetrate this new market segment willing to pay more for green and responsible food products.

Using the "Sustainable U.S. Soy" logo gives us access to a modern premium market segment whose consumers are more aware of climate change issues. Regarding financing, major local banks in Indonesia have launched sustainability-linked loans for small and medium-sized entities like us. In this sense, using the "Sustainable U.S. Soy" logo can help us access this type of loan needed for our business expansion in the future."

**Cucup Ruhiyat**CEO of PT. Azaki Food International
Bogor, Indonesia



The "Sustainable U.S. Soy" logo serves as a credible endorsement of Miracle's commitment to sustainability. The logo can also enhance consumer confidence; upon seeing this logo, they can be more inclined to trust that the soy in the product was produced sustainably. In a competitive marketplace, the "Sustainable U.S. Soy" logo differentiates Miracle from our competitors."

**Cielo Reyes**President of Miracle Soybean Food Int'l. Corp.
Metro Manila, Philippines



We are working with USSEC to promote the "Sustainable U.S. Soy" logo and our labeled soy products. Consumers have become increasingly interested in companies' efforts toward sustainability and recognize it as an important value. Shoppers are considering more about the environment, sustainable consumption and management and corporate social responsibilities (CSR).

Sustainability is not just a trend but something that creates long-term value for companies. We know that using the "Sustainable U.S. Soy" logo is a great opportunity to demonstrate our commitment to sustainability."

**Chulhoon Lee**Purchasing Manager of
Sajo Daerim Corporation
Seoul, Korea



# Record Shipments of SSAP-verified U.S. Soy

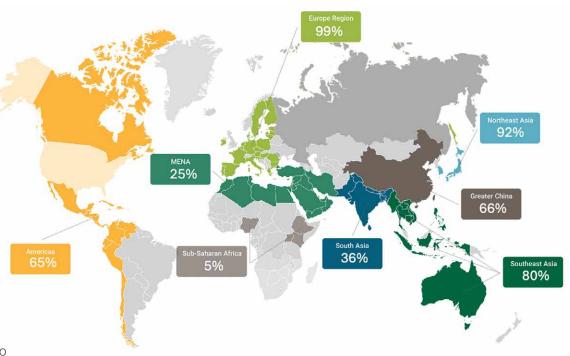
With an ever-increasing global interest in sustainability and responsible sourcing, the amount of sustainable U.S. Soy exported has also increased exponentially. In 2023, 44,480,427 metric tons of sustainable U.S. Soy were shipped globally. This means that 70% of all U.S. Soy exports were shipped with an SSAP certificate. — a 9.54% increase in SSAP-verified export shipments over 2022 and a 56.44% increase over 2021.

Shipments to China accounted for almost half of the SSAP-verified soy exported in 2023. Nearly 20% of SSAP-verified soy exports went to the Americas, followed by Europe and the remainder went to Asia and Africa. SSAP-verified shipments to China have more than doubled since 2021.

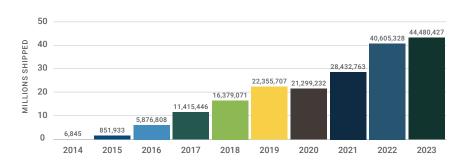
In 2023, 74 exporting companies issued SSAP certificates to accompany shipments of U.S. Soy. SSAP-verified shipments made up 99% of the U.S. Soy exported to Europe and 92% of that sold to Northeast Asia. The data makes it abundantly clear that sustainability is a vital factor in the buying decisions of the international community.

Of the SSAP-verified soy products exported from the U.S., more than 80% were whole soybeans. Soybean meal accounted for 17% of SSAP-verified exports, with oil and other by-products following in small amounts.

#### SSAP Shipments as a Percent of Total U.S. Soy Exports



#### Verified Sustainable U.S. Shipments



# Momentum Worth Mentioning

From less than 7,000 metric tons at the program's beginnings in 2014, SSAP-verified shipments have increased at an incredible rate — a testament to the success of the program and the growing market for sustainable U.S. Soy.

#### From the Exporter – SSAP Shipments

Since certifying the first shipment of U.S. Soy under the Soy Sustainability Assurance Protocol (SSAP) in 2014, Scoular and our customers around the world have come to rely on the SSAP to provide downstream processors and end-use consumers with our collective guarantee on the sustainable practices of exporters and the more than 300,000 U.S. soybean producers adhere to.

SSAP certification has become a trusted and vital tool in bringing additional value to the U.S. Soy Export Supply Chain, as the benefits of sustainably become more recognized and required to access key world markets."

Colby Eymann International Grains and Oilseeds, Scoular



#### **SECTION II:**

Moving U.S. Soy's Sustainability Forward — Goals & Actions of the Industry



# The Value of Sustainable U.S. Soy to the World

The soybean has many nicknames, such as the all-powerful bean or the miracle bean. Its many uses and high-quality protein and oil content make it valuable worldwide, with the United States being a leader in sustainable soybean production.



#### Feeding People

The global plant-based meat market is expected to reach U.S. \$24.8 billion by 2030, expanding at a compound

annual growth rate of 24.9% from 2023 to 2030.2 U.S. Soy is ideally positioned to provide excellent nutrition in meeting this demand. Beyond plant-based meat, soy products like tofu, tempeh and natto provide nutrition around the world. Soy is an excellent source of complete plant-based protein, providing all nine of the essential amino acids necessary for a healthy diet. This protein is a staple for vegans, vegetarians, flexitarians and anyone consuming plant-based food. Soy protein is the only plant protein comparable to animal protein and the only plant protein that carries the U.S. Food & Drug Administration's (FDA) heart health claim confirming it may be able to reduce the risk of coronary heart disease.



#### Feeding Animals

Protein is an essential part of diets worldwide and as our population grows, we will need more protein

in every form to nourish people. Animal consumption of soy protein plays an essential role in global nutrition, and U.S. soybean farmers are answering the call by sustainably producing feed for meat, poultry, fish and other protein sources. The U.S. Soy industry supports animal protein producers around the world by sharing information on farming best practices to maximize efficiency and sustainability throughout the food chain.

U.S. Soy remains committed to supporting soy in animal feed to help provide nourishment to a growing population.



#### The World Wants Soy

U.S. Soy feeds society's needs for protein and essential

fats. Through consistent innovation in the field and efficiency beyond it, U.S. farmers will grow more and higher-quality soybeans to meet growing nutritional needs, provide innovative solutions to many of today's complex challenges and support the progress and vitality of the communities where they live and farm as well as the communities they serve around the world.

# Progress Toward Sustainability Goals

#### 2025 Goals Drive Action for U.S. Soy

U.S. Soy farmers' commitment to sustainability is a long-term promise rooted in conservation programs created by the U.S. Department of Agriculture more than 75 years ago and defined by continuous improvement.

U.S. Soy and partner organizations are dedicated to focusing resources on research, outreach and measurements to stay true to this promise of sustainable farming. Using the year 2000 as a starting benchmark (from the "Field to Market National Indicators Report"3), U.S. soybean farmers aim to achieve the following by 2025:



# **Reduce land use impact by 10%** (measured as acres per bushel)



Increase energy use
efficiency by 10% (measured
as BTUs per bushel)



# **Reduce soil erosion by 25%** (measured as tons per bushel)



**Reduce total greenhouse gas emissions by 10%** (measured as pounds of CO<sup>2</sup>-equivalent gasses emitted)

#### U.S. Soy Sustainability Progress to Build Upon

Since 1980<sup>3</sup>, U.S. soybean farmers have improved resource efficiency.

43%

greenhouse gas emissions efficiency improvement per ton

46%

energy use efficiency improvement per ton

48%

land use efficiency improvement in hectares per ton

34%

soil conservation improvement per hectare

130%

production increase in tons per hectare

# The SSAP Helps Farmers Meet the United Nations' Sustainable Development Goals



In 2015, the United Nations (UN) set Sustainable Development Goals (SDGs)<sup>4</sup> as a blueprint for achieving a better and more sustainable future for all by addressing global challenges, including poverty, inequality, climate change, environmental degradation, peace and justice.

These aspirational goals provide a framework for governments, businesses, Non-Governmental Organizations (NGOs), universities and financial institutions to support priority areas for improvement. The SDGs offer a standard communications and goal-setting framework for connecting business and organizational strategies with global priorities.

Soybean farmer actions associated with the SSAP support many SDGs. U.S. Soy conducted in-depth stakeholder research to map U.S. Soy priorities to the SDGs. Through collaboration with internal and external stakeholders, 15 environmental, social and economic factors were prioritized as opportunities where the industry was positioned to "move the needle."

UN Goal 2, Zero Hunger, addresses all the top U.S. Soy priorities identified in our assessment. Soy plays an integral role in supplying high-quality protein for diets, helping to alleviate hunger. The continual improvements

to climate-smart farming practices outlined in U.S. Soy's 2025 sustainability goals are also highlighted in the targets under SDG Goal 2. The three top priorities that emerged from stakeholder research, which all map to Goal 2, are:

- · Soil health/carbon sequestration
- Water management
- · Greenhouse gas (GHG) emissions

These priorities intersect with five other SDGs, which emphasize environmental responsibility and resilient agriculture, aligning naturally with agriculture and food production.

The assessment also highlighted U.S. Soy's competitive advantages: labor practices and safety, fair competition and business practices, human rights and reduced deforestation. Social aspects like labor and human rights protection and anti-corruption practices are required as a "license to operate" in the U.S. While deforestation is a top issue for the global soy industry, it is not an issue for U.S. Soy, with U.S. forest increasing 742,000 hectares between 1997 and 2017. U.S. Soy continues to seek additional opportunities to align with the UN SDGs and targets to support both our sustainability goals and those of U.S. Soy customers.

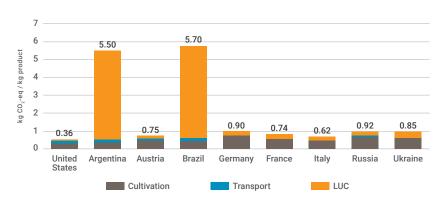
# U.S. Soy's Carbon Footprint is Lowest in the World

According to Blonk Consultants and the data from its Agri-footprint™ database, 6 U.S. Soy's carbon footprint is the lowest in the world when factoring in cultivation impact and land-use change versus other soy, plant proteins and vegetable oils. Blonk's data assesses the environmental footprint of soy from various origins using the Life Cycle Assessment (LCA) methodology, which takes into account the Land Use Change (LUC) impact according to the Product Environmental Footprint standard used by the European Commission to calculate the environmental footprint of a specific product.

Soy is used in many supply chains, and worldwide the area under cultivation is expanding, causing concern that increased soy production leads to CO<sup>2</sup> emissions, land degradation and biodiversity loss. This is especially a concern if the increase in soy production comes with deforestation and other unwanted land use changes such as conversion of savannas, wetlands or grasslands to crop production.

Blonk Consultants examined the impact of cultivation as a contributor to greenhouse gas emissions, examining energy use for machinery and irrigation, fertilizer production and application, crop residue emissions and more. In the U.S., high yields and high levels of mechanization and precision farming techniques minimize emissions. In addition, U.S. farmers use practices such as cover crops, no-till or reduced tillage

#### Carbon Footprint (Including LUC) of Whole Soybeans



and even unfarmed land in conservation programs to reduce emissions while benefiting soil health and biodiversity.

Blonk Consultants also analyzed the impact of land use change over the last 20 years while also using the PAS 2050-1 standard, the most-applied method for calculating the land-use-change impact on the carbon footprint. In Argentina and Brazil, land use change negatively impacts the carbon footprint, primarily due to the clearing of forests to make way for farming. The carbon stored in the trees is released into the atmosphere as carbon dioxide. Land use change barely impacts the carbon footprint of U.S. soybean cultivation. Compared to South America, deforestation and land conversion in the U.S. are much less of an issue.

Learn more about U.S. Soy's Carbon Footprint and Blonk Consultants' work.

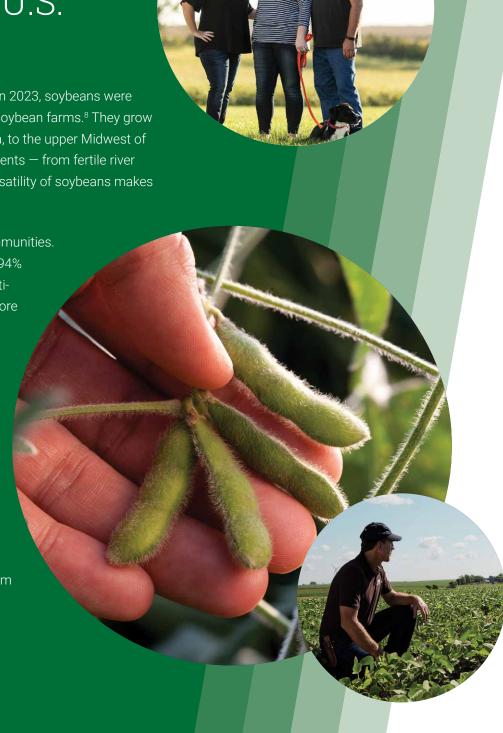


# The Commitment of U.S. Soybean Farmers

Soybeans are a vital part of the U.S. agricultural landscape. In 2023, soybeans were grown on more than 33 million hectares<sup>7</sup> and over 300,000 soybean farms.<sup>8</sup> They grow from the most southern states, such as Texas and Louisiana, to the upper Midwest of Wisconsin and Michigan, performing in all sorts of environments — from fertile river bottoms and heavy clays to sandy soils and hilltops. The versatility of soybeans makes it an easy choice for a wide variety of production systems.

U.S. Soy producers represent a vibrant segment of their communities. Based on a recent survey<sup>9</sup> of U.S. soybean farmers, roughly 94% of soybean farmers consider themselves to be part of a multigenerational operation, with three-fourths of those having more than one family member working on the operation. These producers participate in many diverse community support roles, with 83% volunteering their time and leadership to children, conservation, food banks, local development and more. The majority pursue continuing education opportunities in the agriculture field, spending time in training, field days and other trade and industry events held throughout the year.

Sustainability and conservation are priorities for U.S. Soy farmers because the land is a farmer's most important asset. In the U.S., 98% percent of farms are family-owned, meaning those precious farm assets have often been handed down from generation to generation. Most producers aim to leave the ground better than they found it by continuously improving production practices.



### U.S. Soybean Farmers Use Sustainable Production Practices



**Conservation Tillage:** Conservation tillage practices — such as no-till, strip-till and reduced-till — leave at least 30% of the field under residue cover. These practices leave crop residue behind to protect soil from wind and water erosion, meaning greater soil retention and protection with less compaction and runoff.



**Cover Crops:** Cover cropping is a management practice in which fields are planted, not with the specific goal of a harvested crop, but to provide ground cover that benefits the farm and its surrounding ecosystem. Cover crops can prevent runoff, slow water movement across the field and improve soil structure through increased organic matter. They can also trap fertilizer that might try to move out of the field.



Waterway Preservation and Management: Water use management practices enable farmers to increase input efficiency and ensure sustainable withdrawal. Technology advances like center-pivot irrigation systems, weather and soil moisture sensors and water storage ponds help farmers precisely optimize water resources. U.S. farmers also use practices such as buffer strips, grassed waterways and field terraces to keep soil and nutrients in the field where they belong, as waterways can sometimes become the vehicle for soil erosion and nutrient runoff. These water management practices keep our water sources clean and protected.



**Precision Farming:** Today's precision technologies allow farmers to keep a close, guided eye on everything from tillage and planting to pesticide and fertilizer application, water use efficiency and harvest success. Precision practices have led to an estimated 7% increase in fertilizer placement efficiency, a 9% reduction in herbicide usage, a 6% decrease in fossil fuel use and a 4% reduction in water use.<sup>10</sup>



**Nutrient Management:** U.S. farmers use detailed nutrient management plans to precisely apply just the right amount of nutrients for crops when needed. This allows for more productive soil; less fertilizer use and protected water quality. Soil testing, cover crops and crop rotation are among the primary ways that farmers manage the use of nutrients.



Innovations in Plant Breeding and Biotechnology: Plant breeding innovation and biotechnology make weed control more effective and reduce the amount of chemicals and inputs needed to produce crops. More than 90% of the soybeans grown in the U.S. are herbicide tolerant. These innovations also work to increase nutritional benefits for consumers, protect against extreme weather conditions and address malnutrition around the globe.

### What U.S. Soybean Farmers Say About Sustainable Production

"I think that living on the ground that we are actively farming brings even more to the forefront the importance of responsibly farming in a manner that ensures the conservation of our land and water quality." — Iowa Soybean Farmer, Tricia Jaeger

"We have a long history with this land and plan on farming many generations in the future. We want to be caretakers of the soil to keep it in the best shape possible." — Alabama Soybean Farmer, Steve Allen

"We have worked the same ground for so long, there is an intimate connection to the land. This means we know what works for our ground. We know how to cut back on inputs in some areas and the proper techniques to use to reduce environmental impacts." — Tennessee Soybean Farmer, Kerry Frazier

"The care for the land while producing soybeans is of utmost importance to multi-generational farmers, as each generation can see the efforts of previous generations and can work to improve on those practices for future generations." — Kansas Soybean Farmer, John Pringle



### Meet U.S. Soybean Farmers



#### Meagan Kaiser

Meagan farms soybeans and corn in Missouri with her husband Marc, a fifthgeneration farmer. In addition, Meagan is a soil scientist, serving as Chief Operating Officer of Perry Agricultural Labratory, Inc. She's an active leader in the U.S. soybean industry, including serving as the Past Chair of the United Soybean Board. "Sustainability on our farm is a year-round focus that begins with data. We must be sustainable to be an economically viable operation ... and of course, to make sure that the next generation has the opportunity to continue the family legacy in a better starting position than we were. Just like the generations before did for us."



#### Tim Bardole

Tim's family has a nearly 120-year farming legacy in central lowa. For about 90 of those years, the Bardoles tilled their farmland. They shifted their operations in 1993 to no-till. Farmers like Tim use sustainable agriculture practices not only because they're good for the environment, but also because they help their bottom lines. Sometimes, it takes time to get operations up and running, but once sustainable agriculture solutions are implemented in full capacity, the numbers speak for themselves. "When my father started farming in the '60s, 30-bushel anacre soybeans was a good yield. When I started in the '90s, it was 45. Today, if we don't grow 70-bushel-an-acre soybeans, it's considered a disappointment. To me, that proves sustainability. If we are damaging the land, it would not produce the way it does."



#### Laurie Isley

Laurie and her husband, James, farm with their son, Jake, and his wife, LeeAnn, in Palmyra, Michigan, just 30 miles west of Lake Erie. The farm ground is primarily sandy-loam soil with gravel subsoil, requiring practices that help to conserve water throughout the growing season. The Isley family has been recognized for their sustainable practices with a Conservation Legacy Award from the American Soybean Association. "We value our impact on the environment. We are proud of being farmers and that we farm in a way that leaves the land better for the next generation than we got it. We invest in our future."

# Industry Action to Advance Soy's Sustainability



# The U.S. Soybean Export Council Shares U.S. Soy's Sustainability Story

Throughout 2023, the U.S. Soybean Export Council (USSEC) engaged in numerous events and partnerships to strengthen relationships between U.S. Soy and its potential buyers and end users to foster dialogue and propel the forward momentum of U.S. Soy's sustainability.

#### Regional Conferences Foster Dialogue

USSEC organized regional conferences such as the Americas Agribusiness Sustainability
Conference and the Asia Food and Ag Sustainability Symposium to engage international buyers in understanding the sustainability of U.S. Soy. These conferences specifically address each region's sustainability needs and interests, which can vary significantly, from deforestation regulation concerns in Europe to sustainability fundamentals discussions in Southeast Asia.

#### Trade Visits Show Off U.S. Soy and Customer Needs

Trade Teams cultivate relationships across the U.S. Soy value chain and every year, USSEC facilitates numerous Trade Team visits. International buyers visit various entities in the United States, including farmers, soybean processors and export facilities to gain insights into the U.S. Soy industry.

Similarly, U.S. Soy farmers travel overseas to gain an understanding of country-specific requirements, challenges and constraints. While learning about the customers' needs, the U.S. Soy farmers also share information about their farms and practices.

In September 2023, USSEC hosted nine European feed industry contacts for a tour in Indiana, Kentucky, Illinois and Missouri. The trip focused on sustainability and sustainable soybean production began with a visit to a site in Indiana operated by The Nature Conservancy, where 5,000 acres of former cropland have been restored to native prairie with the largest herd of bison east of the Mississippi River.

The group also visited a Consolidated Grain and Barge Co. river terminal and met with the USSEC CEO, Jim Sutter, at USSEC's headquarters in St. Louis, Missouri.

#### Partnerships Push U.S. Soy Further

USSEC partnerships are vital to furthering the messages of sustainable U.S. Soy. By working with trade organizations across the globe, USSEC provides education and perspective specific to the different sustainable production needs around the world.

**The European Feed Manufacturers' Federation** — USSEC's partnership with The European Feed Manufacturers' Federation (FEFAC) is one of its longest-standing collaborations to ensure European market access. The Sustainable Soy Assurance Protocol (SSAP) is recognized and accepted under the FEFAC Soy Sourcing Guidelines for 2021.

FEFAC was founded in 1959 by five national compound feed associations from France, Belgium, Germany, Italy and the Netherlands. FEFAC's role is to promote the interests of the European compound feed industry, while lobbying for the legislative framework that maximizes market opportunities for European compound feed and premix companies. Encouraging sustainable livestock production is also critical to their mission.

The USSEC Europe-MENA program collaborates with FEFAC, European member states and affiliated country feed associations for meetings, trade missions and global events, enabling USSEC to communicate the benefits effectively of sustainable U.S. Soy at feed industry meetings across Europe. USSEC regularly provides speakers at country-level feed association annual meetings and has been consistently featured at FEFAC's yearly conference, fostering direct relationships with Europe's largest soy consumers.

USSEC and FEFAC collaborate on sustainability initiatives on a global scale. FEFAC has provided speakers on sustainability practices in the

European feed industry, on Global Feed LCA Institute (GFLI) and deforestation regulations, including engagements in China and Southeast Asia. FEFAC and CESFAC — the Spanish federation of the feed industry — held meetings with the USSEC Latin America team and customers in Europe.

USSEC team members play a key role in collaborating with FEFAC on trade issues and related matters, even participating in European sustainability panel discussions at major events, providing an opportunity to offer the U.S. perspective in coordination with the European feed industry.

Field to Market: The Alliance for Sustainable Agriculture — Field to Market brings together more than 190 member organizations across the food and agriculture value chain to collaborate on the future for farmers, businesses and the environment, with a focus on science-based, industry-wide solutions. A member organization since 2014, USSEC uses the "Field to Market Indicators Report" as a resource when setting goals for U.S. Soy. Members of the USSEC team attend biannual sessions to maintain a consistent relationship between USSEC and Field to Market and serve on committees within the organization.

#### Agricultural Sustainability Committee of the China Feed Industry

**Association** — USSEC is also involved with China's Agricultural Sustainability Committee (ASC). The ASC operates under the China Feed Industry Association (CFIA), which has a history of promoting palm oil and working with the Roundtable on Sustainable Palm Oil (RSPO). Establishing this working committee allows for a more focused approach to sustainable agriculture, considering global biodiversity conservation requirements and national carbon peaking strategies, carbon neutrality and ecological goals.

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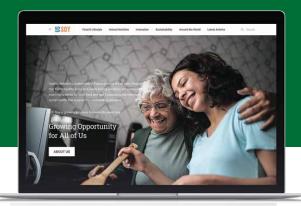
The committee aims to study and promote scientific research, production, processing, procurement and marketing methods related to sustainable agriculture. This work includes expanding the supply and procurement of environmentally-friendly and low-carbon products, raising industry awareness of environmental and ecological protection, and promoting sustainable agricultural development. The committee also contributes to national ecological civilization construction, carbon peak, carbon neutrality, biodiversity protection and environmental preservation goals. The committee is comprised of 13 members, including Cargill, Bangui, Yihai Kerry, USSEC, World Wildlife Fund (WWF), World Resources Institute (WRI) and Louis Dreyfus Company (LDC).

The committee's efforts regarding sustainable soy are still in their early stages. The market demand for sustainable soy differs from that of palm oil, explaining the variation in project progress. Recent committee activities include discussions of the 2023 work plan and soybean proposals, such as Sustainable Soybean Procurement Guidelines and China's Sustainable Soybean Certification, including South America and the U.S.

**Global Feed LCA Institute** — USSEC collaborates with the Global Feed Life Cycle Assessment (LCA) Institute to ensure access to the most up-to-date LCA information, including the Agri-footprint data in the Global Feed LCA Institute (GFLI) database.

USSEC maintains Association Membership within GFLI and actively participates in its associated conferences, including the second Global Food and Agriculture Sustainability Symposium, which focused on developing standardized approaches for LCA in feed production.

# Communicating U.S. Soy's Sustainability Story



USSEC proactively develops communications campaigns that share the data behind sustainable U.S. Soy. Using a variety of channels, including websites, social media, events and more, USSEC addresses common questions about U.S. Soy, including its low-carbon footprint and the sustainable production practices farmers use, like no-till, crop rotation and biodiversity, as well as how to buy U.S. Soy.

With offices worldwide and an active team, USSEC is available to answer questions from current and potential buyers of U.S. Soy. This past year, USSEC focused on sharing the news about the transferability of SSAP certificates.

See more about how USSEC shares the story of U.S. Soy.





# Trade Organizations Drive U.S. Soy's Sustainability Forward

In addition to USSEC, other industry trade organizations play important roles in advancing U.S. Soy's sustainability. The early drivers in developing a national strategy for enhancing U.S. Soy sustainability that became the SSAP included:



The United Soybean Board's 77 volunteer farmer-leaders work on behalf of all U.S. soybean farmers to achieve maximum value for their soy checkoff investments. These volunteers create value by investing in research, education, and promotion with the vision to deliver sustainable soy solutions to every life, every day across the three priority areas of Infrastructure & Connectivity, Health & Nutrition, and Innovation & Technology.



The American Soybean
Association (ASA) is a
membership organization
that represents U.S. soybean
farmers on domestic and
international policy issues
important to the soybean
industry, including trade.
ASA has 26 affiliated state
associations representing
30 soybean-producing states
and more than 500,000
soybean farmers.



The U.S. Soybean Export Council (USSEC) focuses on marketing and promoting U.S. Soy to more than 80 international markets.

USSEC members represent the entire soy supply chain, including U.S. Soy farmers, processors, commodity shippers, merchandisers, allied agribusinesses and agricultural organizations. USSEC is funded by the U.S. soybean checkoff, USDA Foreign Agricultural Service (FAS) matching funds and the U.S. industry.

Along with USB, ASA and USSEC, government, research institutions, private industry, state soybean organizations, and many others play key roles in advancing U.S. Soy's sustainability.

### Quick Facts about U.S. Soy's Sustainability

# Conservation — A Priority for U.S. Soybean Farmers

- Soy is a part of a diverse crop rotation plan produced on 28% of U.S. cropland.<sup>12</sup>
- Soil erosion rates on all U.S. cropland decreased 35% between 1982 and 2017.<sup>13</sup>
- Soil erosion from U.S. Soy production decreased 47% <sup>14</sup>
- Some form of conservation tillage (no-till, strip-till or mulch-till) was used on about 70% of soybean acres in 2012, with about 56% of that being no-till.<sup>15</sup>
- 91% of U.S. Soy travels to export position by barge or rail.<sup>16</sup>

#### Government Programs Foster Sustainable Environments

 The U.S. Government established conservation programs in the 1930s.
 In 1985, the Food Security Act greatly increased conservation efforts monitored by USDA.<sup>17</sup>

- Land use decreased 40% per ton of U.S. soybean production and energy use (BTUs per bushel) for U.S. soybean production has decreased 35% since 1980.<sup>18</sup>
- Currently, over 1.8 million hectares are protected by easements held and enforced by the U.S. Government.<sup>19</sup>
- The National Resources Conservation
   Service employs over 10,000 people in conservation programs and compliance.
- 8.4 million hectares are removed from production to protect the environment in the Conservation Reserve Program.<sup>20</sup>
- More than 18.2 million hectares of production land are enrolled in the Conservation Stewardship Program.<sup>21</sup>
- The Environmental Quality Incentives
   Program (EQIP) provides funding to farmers
   to adopt conservation practices like nutrient
   management, conservation tillage, cover
   crops, and field-edge filter strips. From 2009
   through 2020, more than \$17.4 billion U.S.
   dollars have been spent in EQIP to design
   and implement conservation practices
   nationwide on over 56.2 million hectares.<sup>22</sup>

#### Looking to the Future

- The USDA will spend \$71 billion from 2019-2030 on conservation.<sup>23</sup>
- The USDA is investing over \$3.1 billion in 141 selected projects under the Partnerships for Climate-Smart Commodities.<sup>24</sup>
- The Inflation Reduction Act of 2022 appropriated more than \$18 billion in new funding specifically for climate-smart agriculture and forestry greenhousegas-mitigating and carbon sequestration activities into existing USDA conservationrelated programs.<sup>25</sup>

#### Footnotes

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# By 2025, U.S. soybean farmers aim to:

Reduce land use impact by 10% (measured as acres per bushel).

Reduce soil erosion by 25% (measured as tons per bushel).

Increase energy use efficiency by 10% (measured as BTUs per bushel).

Reduce total greenhouse gas emissions by 10% (measured as pounds of  $CO^2$ -equivalent gasses emitted).

# The Future of Sustainable U.S. Soy

The SSAP is on schedule for a review and update in 2024.

Based on projections from the U.S. Department of Agriculture and a historical analysis of SSAP shipments, 72.1 million metric tons of SSAP-verified U.S. Soy will be available in MY 2024.<sup>26</sup>

Ask your supplier for SSAP-verified U.S. Soy!

Learn more about U.S. Soy as a sustainable solution. Visit www.Solutions.USSoy.org

To request SSAP-verified U.S. Soy, visit www.USSES.org









