U.S. Soy supports U.N. Sustainable Development Goals (SDGs)

The 17 UN Sustainable Development Goals (SDGs)[1] and their underlying targets focus on people, prosperity, planet, peace and partnerships. SDGs provide a targeted, holistic framework for governments, businesses, universities, financial institutions, and NGOs to build upon to address the critical needs outlined in these aspirational goals.

Figure 1

U.S. Soy production prioritizes climate-smart agriculture, guided and influenced by a national system of sustainability and conservation laws, regulations and guidelines, combined with careful implementation of best production practices on the nation's 303,191 soybean farms.[2] The U.S. Sustainable Soy Assurance Protocol (SSAP)[3] outlines the regulations, processes, and management practices that ensure sustainable soy production for environmental, social and economic sustainability outcomes over time. By following the SSAP and other best management practices, U.S. Soy farmers are contributing to progress toward many of the 17 SDGs.

[1] https://sdgs.un.org/goals
[2] https://quickstats.w%20U.S.%20Soy%20Sustainability%20Assurance,mass%20balance%20international%20verification%20available. (2021)
[3] https://ussec.org/resources/ssap-2021/#:~:text=The%20U.S.%20Soy%20Sustainability%20Assurance,mass%20balance%20international%20verification%20available. (2021)

U.S. Soy production provides solutions

U.S. Soy farmers are results-focused and solutions-oriented. In turn, through the soy checkoff, they sponsored market research to identify how soy grown on U.S. farms could have the greatest impact on the SDGs.The research, using the SDG mapping framework developed by the World Business Council for Sustainable Development (WBCSD), revealed that U.S. Soy farmers contribute to several of the 17 SDGs. Yet, the continuous improvement farming practices adopted on these farms will have the greatest impact on SDG 2 – Zero Hunger, Target 2.4 *(Figure 2)*

Food and Agriculture Organization of the United Nations

Figure 2

Original image (w/o US SOY arrow) posted by David Nabarro, LinkedIn, adapted from FAQ

The UN Sustainable Development Goals (SDGs) are about leaders taking actions NOW that will secure the FUTURE for people, prosperity, planet, peace and partnerships.

While U.S. Soy supports all 17 SDGs, U.S. Soy farmers have the greatest impact on progress towards SDG2 through delivering sustainable soy solutions to every life, every day through resilient agricultural practices as outlined in Target 2.4.

U.S. Soy farmers are commited to using and improving "resilient agriculture practices....for progressively improving land and soil" (SDG2) for today and future generations.

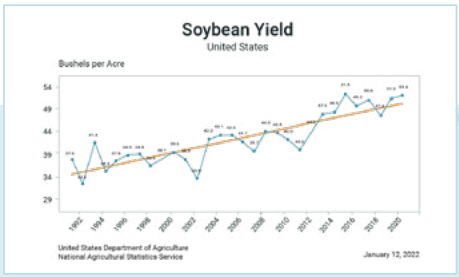
SDG2 targets food and agriculture and is foundational to drive progress in all SDGS to deliver on a better and more sustainable future for all.

Many different farming production and management methods used on U.S. Soy farms contribute to SDG 2.4. These methods increase productivity and production efficiencies and help maintain ecosystems that strengthen adaptation to climate change, while progressively improving land and soil quality *(Figure 3)*.
Examples of resilient agricultural practices used on U.S. soybean farms include:

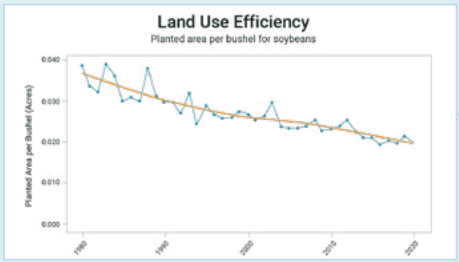
1. Selection of top genetics and seed treatment technologies
2. Use of precision agriculture tools and systems
3. Adoption of new input technologies
4. Employing various crop production management systems to improve soil health:
    a. conservation tillage (no-till and minimum till)
    b. crop rotation
    c. cover crops

Figure 3

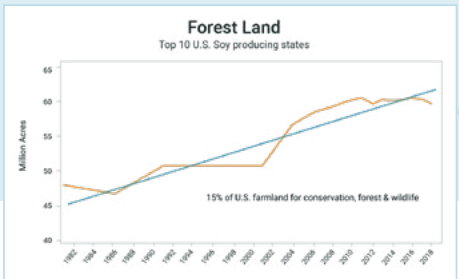
3a.



3b.



3c.



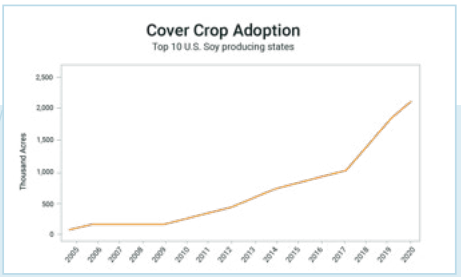
U.S. Soy farmers are committed to using and improving "resilient agriculture practices.... for progressively improving land and soil" (SDG2} for today and future generations.

2 ZERO HUNGER

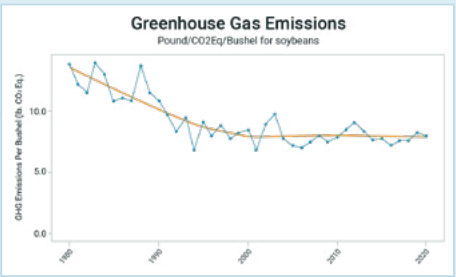
2.4: By 2030, ensure sustainable food production systems and **implement resilient agricultural practices** that increase productivity and production, that help **maintain ecosystems**, that strengthen capacity for **adaptation to climate change**, extreme weather, drought, flooding and other disasters and that **progressively improve land and soil quality**.

SUSTAINABLE U.S. SOY.

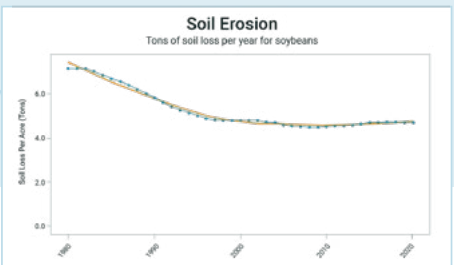
3d.



3e.



3f.



[3a] U.S. Department of Agriculture National Agriculture Statistics Service (USDA NASS)
[3b] http://fieldtomarket.org/media/2021/12/Field-to-Market_2021-National-Indicators- Report_FINAL.pdf, page 52.
[3c] https://www.nrs.fs.fed.us/fia/data-tools/state-reports/NE/default.asp; https://www.ers.usda.gov/data-products/major-land-uses/ https://www.fb.org/market-intel/more-than-140-million-acres-in-federal-farm-conservation-programs
[3d] https://www.nrcs.usda.gov/wps/portal/nrcs/rca/national/technical/nra/rca/ida/ Represents 80% of US Production
[3e] http://fieldtomarket.org/media/2021/12/Field-to-Market_2021-National-Indicators-Report_FINAL.pdf, page 53
[3f] http://fieldtomarket.org/media/2021/12/Field-to-Market_2021-National-Indicators-Report_FINAL.pdf, page 54

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Selective use of available technologies

Based on data collected by the U.S. Department of Agriculture National Agriculture Statistics Service (USDA NASS), soybean yields more than doubled from 1980 to 2020.

U.S. Soy farmers have been able to produce more per acre due to a high adoption rate of improved soybean varieties. 90% of soybeans are planted using seed and treatment technologies that support efficient growth in yield per acre.

The use of precision agriculture helps U.S. Soy farmers produce more soy from the same amount of land, even as they reduce use of natural resources. Precision ag uses technology to access real-time data about crops, soils, ambient air and weather conditions to provide guidance about genetics, crop rotations, planting and harvest timing, pest management, soil management and more. These technologies support soil conservation, erosion reduction and nutrient management, strengthening farmers' capacity to adapt to climate change.

Protecting while producing

Conservation tillage is used widely on major U.S. crops, including 70% of soybean acres.[4] It includes practices[5] that:

1. Minimally disturb soils
2. Keep soil, nutrients, and crop treatments with the plants
3. Prevent soil compaction, enabling biodiversity to thrive and rainwater to penetrate/filter
4. Limit carbon emissions from both soil disturbance and from tillage equipment
5. Protect surface water sources from run-off
6. Allow better absorption of rainwater for efficient utilization, aqueduct recharge and run-off prevention
7. Promote soil health

Improved tillage practices enabled U.S. Soy farmers to reduce production derived greenhouse gas emissions from 13.6 pounds of CO_2e per bushel in 1980 to 7.9 pounds of CO_2e per bushel in 2020.[7]

From 2005 to 2020, the adoption of cover crops in the top 10 soy producing states grew from approximately 100,000 acres to more than two million acres.[8] Use of cover crops reduces soil erosion, slows runoff from rains, increases soil organic matter and improves soil health.

[4] https://www.ers.usda.gov/webdocs/publications/90201/eib-197.pdf?v=7027.1
[5] https://sarep.ucdavis.edu/sustainable-ag/conservation-tillage
[6] https://www.ers.usda.gov/webdocs/publications/90201/eib-197.pdf
[7] http://fieldtomarket.org/media/2021/12/Field-to-Market_2021-National-Indicators-Report_FINAL.pdf page 53
[8] https://www.ers.usda.gov/webdocs/publications/100551/eib-222.pdf?v=9246

Commitment to continuous improvement

U.S. Soy farmers are committed to continuous improvement of sustainable food production systems. Field to Market's National Indicator Report (2021) uses national-level data from USDA and other public sources to report the environmental outcomes from on-farm agricultural production every five years. The land use impact of U.S. Soy production improved by 48% and energy use efficiency improved by 46% percent from 1980 to 2020.[9] This long-term commitment to conservation and best management practices benefits global food production systems that use soybean products, especially with the use of soybeans grown in the U.S.

As U.S. farmers continue to increase the adoption and use of resilient agricultural practices on their farms for environmental, social and economic progress, their efforts will, in turn, provide a consistent supply of U.S. Sustainable Soy. As U.S. Soy farmers use and improve the resilient agricultural practices ***"that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality,"*** [10] then progress towards achieving SDG 2, Target 2.4, will continue.

[9] http://fieldtomarket.org/media/2021/12/Field-to-Market_2021-National-Indicators- Report_FINAL.pdf
[10] https://sdgs.un.org/goals