



PRECISION AG SUPPORTS SUSTAINABLE SOYBEAN PRODUCTION

U.S. soybean farmers are investing in proven technology and targeted innovations that elevate yield, reduce costs and ensure sustainable production. With **Global Positioning Systems (GPS)** available on most production equipment, today's farmers can more effectively and efficiently monitor and manage their inputs.

Precision farming using GPS technology lets farmers plant seed and apply nutrients and pesticides at prescribed rates with exact placement. This approach reduces drifting and run-off of excess inputs, protecting the surrounding environment and natural resources. Precision technology also lessens the number of times equipment must cross a field, reducing fuel usage, emissions and soil compaction.

Farmers base their precision ag decisions on an analysis of each field's soil types, available nutrients, and yield data from previous years. That analysis then allows farmers and their agronomic advisers



to prescribe nutrition and crop protection for each part of each field. **Variable rate technology** gives farmers the ability to modify fertilizer and pesticide rates within the field—even within the row—as they are being applied.

Irrigation is also managed by precision technology, to ensure water is applied when and where needed by the plant. When combined with water-efficient soybean varieties, this technology reduces irrigation water use by 32% per bushel of irrigated soybeans.¹



PRECISION AGRICULTURE PRACTICES HAVE LED TO AN ESTIMATED:

7%

INCREASED FERTILIZER
PLACEMENT EFFICIENCY²

9%

REDUCED
HERBICIDE USAGE²

6%

DECREASED FOSSIL
FUEL USAGE²

4%

REDUCED
WATER USAGE²

Soybean farmers are increasingly adopting cutting edge technologies such as drones, satellite images or Normalized Difference Vegetation Index (NDVI) imagery to monitor crop health. These technologies identify crop stress or damage almost as soon as it occurs and allow farmers to apply prescriptive solutions early and only to affected plants.

Finally, yield monitors during harvest give farmers the feedback they need to better identify and understand the efficacy of the interventions taken during the growing season. This information then becomes the basis for planning their next crop.



The use of Precision Agricultural practices by U.S. Soy farmers are critical to ensuring sustainable food systems that are resilient to strengthen the capacity of U.S. farms to adapt to climate change. It also contributes to the U.S. Soy farmers long-term impact towards many of the U.N. Sustainable Development Goals (SDG), especially SDG 2—Zero Hunger. Specifically, SDG Target 2.4, says, “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**.”

1. Field to Market: The Alliance for Sustainable Agriculture, 2016. Environmental and Socioeconomic Indicators for Measuring Outcomes of On Farm Agricultural Production in the United States (Third Edition). ISBN: 978-0-692-81902-9.

2. The Environmental Benefits of Precision Agriculture in the United States, February 1, 2021, A Study from the Association of Equipment Manufacturers (AEM), in partnership with the American Soybean Association, CropLife America, and National Corn Growers Association, <https://app.box.com/s/3s8x8xq10lm2ygm8iu56mgaow4l>

About U.S. Soybean Export Council (USSEC): Soybeans are the United States' No. 1 food and agricultural export. The U.S. Soybean Export Council (USSEC) is focused on building preference, improving the value, and enabling market access for the use of U.S. Soy for human consumption, aquaculture, and livestock feed in 82 countries across the world. USSEC is a dynamic partnership of U.S. soybean producers, processors, commodity shippers, merchandisers, allied agribusinesses, and agricultural organizations; and connects food and agriculture industry leaders through a robust membership program. USSEC is farmer-funded by checkoff funds invested by the United Soybean Board, various state soybean councils, the food and agriculture industry, and the American Soybean Association's investment of cost-share funding provided by U.S. Department of Agriculture's (USDA) Foreign Agricultural Service (FAS). To learn more, visit www.ussec.org and www.ussoy.org, and engage with us on USSEC's LinkedIn, Twitter, Facebook, and U.S. Soy's LinkedIn, Twitter, Facebook, Instagram and YouTube.



U.S. SOY FOR A GROWING WORLD