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Farm Policy and the Brief Saga of Soybeans, Part 1

Jonathan Coppess and Jared Hutchins

Department of Agricultural and Consumer Economics
University of Illinois

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Farm Bill reauthorization now looks for progress early in the 2024 legislative calendar (Abbott, [November 16, 2023](#)). That calendar, however, does not appear favorable. The continuing resolution passed in November to avoid a federal government shutdown has been split in two, presenting the possibility of two different partial federal shutdowns and a need to resolve a large workload of funding issues by January 19th and February 2nd (see e.g., Committee for a Responsible Budget, [November 17, 2023](#)). Adding further complications, 2024 is a major election year with the entire House, one-third of the Senate, and the Presidency to be decided in November. For now, however, a brief reprieve from the reauthorization debate and a detour. This article initiates an exploration of the nation's second largest commodity crop and the third largest program crop: soybeans.

Historical Background

The origin story for soybeans is clouded by the mystery that is time and history. Many details are obscured by time and distance (including language and cultural), a lack of written records or even conflicting records, and even mythology. In general, Chinese farmers first domesticated soybeans sometime between 1125 and 256 BCE. From domestication in northeastern China, soybeans were introduced throughout Asia during the first century CE. One notable event in soybean history was the first exports of soy sauce from Japan to Europe by the East India Company in the early 1670s, where it became common on European tables by the 1750s. Records also indicate that soybeans were first planted in France in 1740 and then in England in 1790 (Hymowitz 2008).

It was Samuel Bowen who first introduced soybeans to the American colonies. Bowen had been employed by the East India Company and posted in Canton, China in 1758. He may have been imprisoned for violating the Chinese Emperor's restrictions on trading with the English; in 1763, he reappears in London. A year later, he is reported to have arrived in Savannah, in the colony of Georgia where he gets married and purchases land. In 1765, records indicate that he requested the Surveyor-General of the Georgia colony plant soybean seeds that Bowen brought from China. This is the first known planting of soybeans in what became the United States of America. Bowen's goal was to produce

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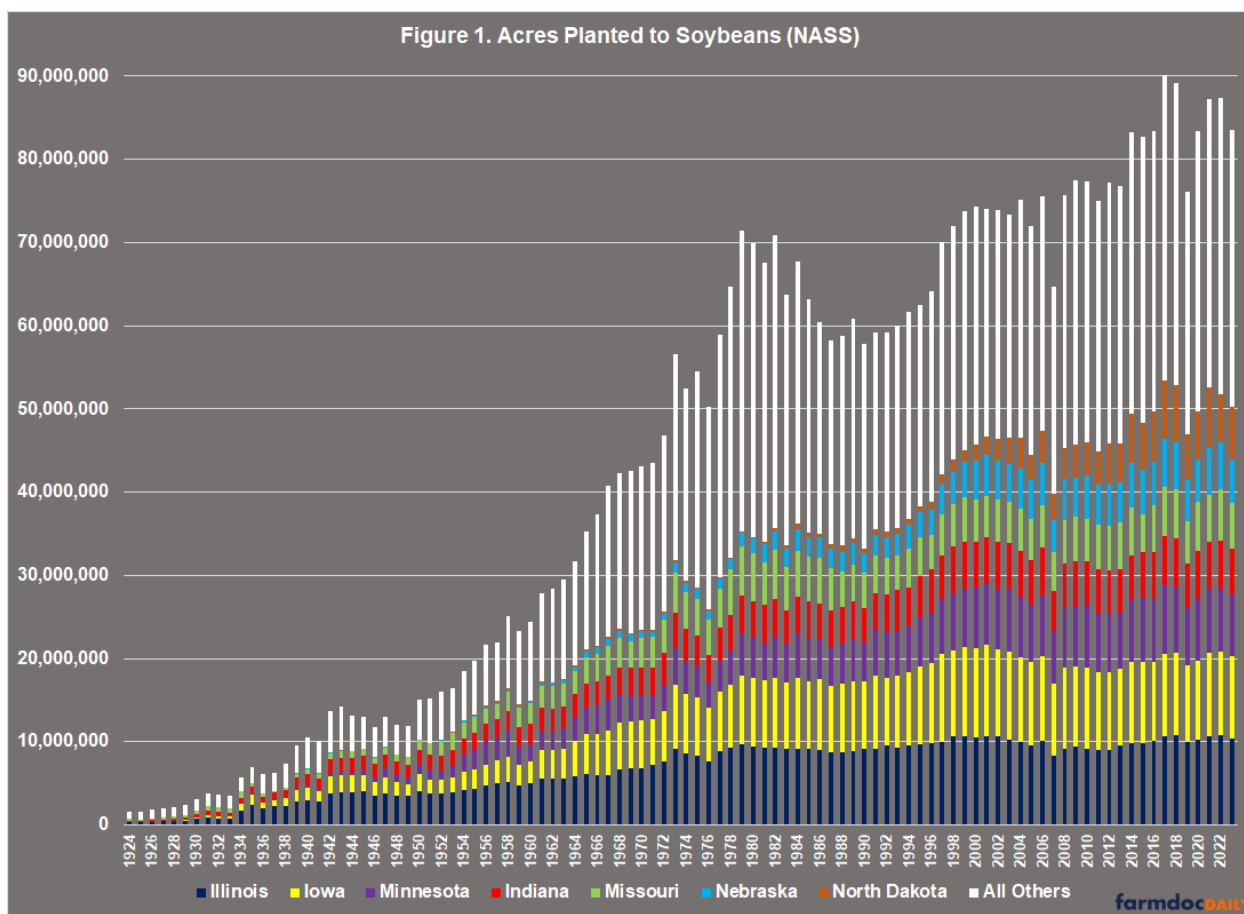
soy sauce and other soy products for export to England, and he received a patent on his products in 1767. A second documented introduction of soybeans in the colonies is attributed to Benjamin Franklin who sent seeds from London to a Philadelphia botanist named John Bartram in 1770. (Hymowitz and Harlan, 1983; Hymowitz, 2008).

Soybeans were introduced in Illinois in 1851 and credited to Dr. Benjamin Franklin Edwards. He traveled to San Francisco in 1849 to seek his fortune in the gold rush. In 1851, he returned to Alton, Illinois, carrying with him soybean seeds that he apparently received from a crew of Japanese sailors that had been held in quarantine after being rescued at sea in 1850. Dr. Edwards gave the soybean seeds he acquired in San Francisco to John H. Lea of Alton. In the summer of 1851, Lea planted the soybeans in his garden and then distributed the seeds he harvested. The first planting of soybeans in Iowa was a year later by J.J. Jackson of Davenport, who received seeds from Lea. Also in 1852, Andrew H. Ernst planted some of Lea's soybean seeds near Cincinnati, Ohio. Ernst distributed soybean seeds he harvested to horticultural societies in New York and Massachusetts in 1853, as well as the Commissioner of Patents. From there, soybean seeds were sent to farmers throughout the United States (Hymowitz, 1987; Hymowitz, 2008).

In 1854, Commodore Matthew Perry's expedition is credited with opening trade between the United States and Japan. The expedition's agricultural expert, Dr. James Morrow, obtained soybean seeds in Japan and sent them to the Commissioner of Patents, which were thereafter also distributed to farmers in the U.S. By 1878, Dr. George H. Cook and James Nielsen of the New Jersey Agricultural Experiment Station obtained soybean seeds from Europe which they planted in 1879, the first reported production of soybeans at a Land Grant institution in the U.S.; before the end of the 19th Century, soybean seeds were grown at almost all agricultural experiment stations in the Nation. In 1898, the first number for soybeans under the Plant Introduction designation system of the Office of Foreign Seed and Plant Introduction at USDA was for seeds from Professor N.E. Hansen of the South Dakota Agricultural College. When William J. Morse joined USDA in 1907, he became a leading advocate for soybean production in the U.S. Thereafter, USDA scientists took exploratory trips to China, Japan, and Korea from 1924 through 1926 and sent back additional lines of soybean seeds, as well as from 1929 to 1931. Morse retired from USDA in 1949 and was succeeded by Martin G. Weiss who, with Jackson L. Carter of the U.S. Regional Soybean Laboratory in Urbana, Illinois, began the development of a comprehensive collection for soybean germplasm (Hymowitz 2008). That laboratory had been established at the University of Illinois in 1936 under authorities enacted by Congress in the Bankhead-Jones Act of 1935 (Howell, 1983).

By the late 1950s and early 1960s, U.S production of soybeans surpassed soybean production in China. By 1968, the U.S. grew 76% of the world's soybeans and China 17%. By the 1984 crop year, U.S. production was 56% of world soybean production (Hymowitz, 1987; Hymowitz, 1970). USDA recently reported world soybean production of 360 million metric tons, with the U.S. production of 121.5 million metric tons (34%) surpassed by Brazilian production at 130.5 million metric tons (36%) (USDA WASDE Report, [November 2023](#)).

USDA's NASS Quickstats database first reports acres planted to soybeans in 1924. That year, farmers planted a total of 1.567 million acres to soybeans (USDA-NASS, [Quickstats](#)). 100 years later, NASS reported 83.6 million acres planted to soybeans. Figure 1 presents the total acres planted to soybeans in all years reported by NASS. Seven states have averaged five million or more acres planted to soybeans in the previous 20 years (2004 to 2023). Combined, these states constitute 60% of total acres planted to soybeans in the U.S. and they are presented separately in Figure 1.

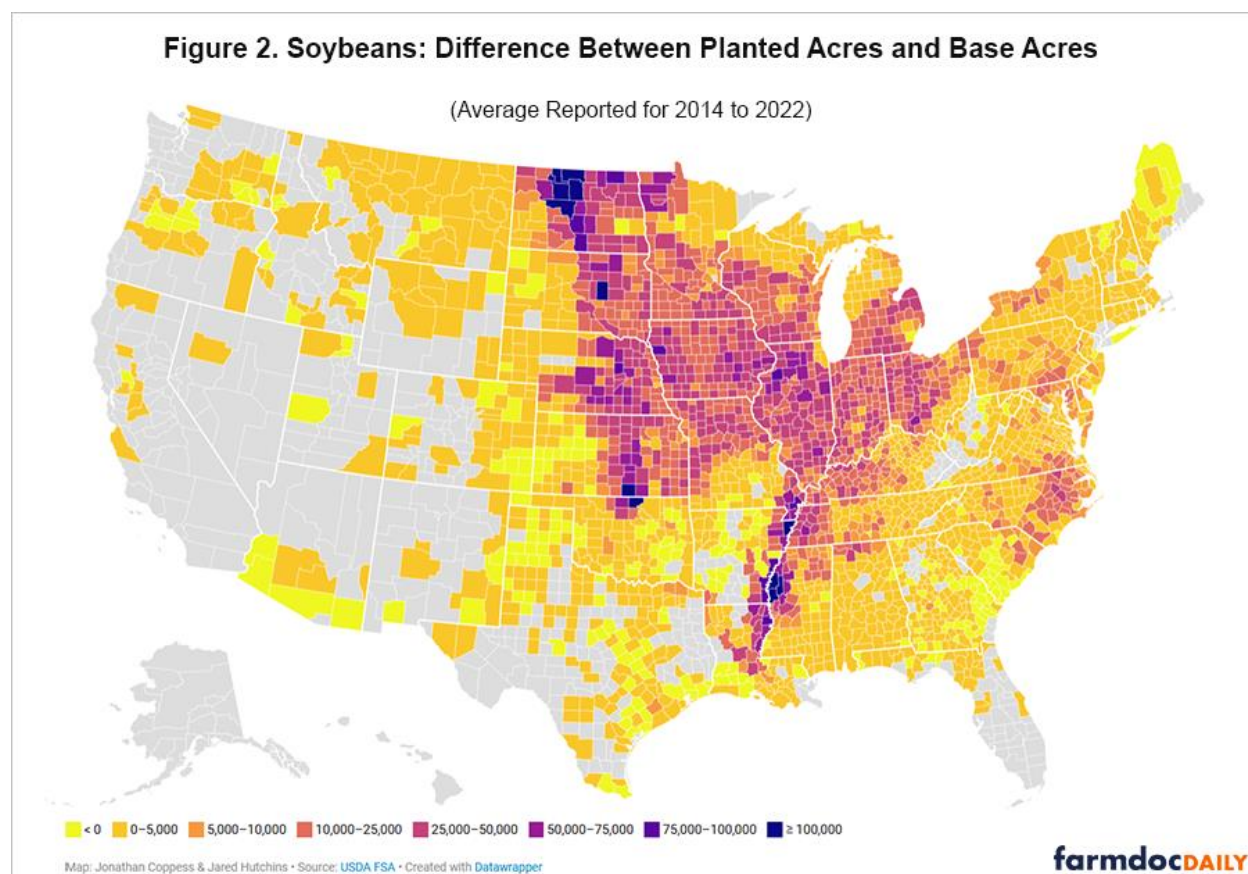


In the NASS database, Illinois was the first to plant over 1 million acres, with 1.715 million reported in 1934; Iowa broke a million with 1.2 million in 1935, while Illinois planted 2.4 million that year. Illinois leads the nation in acres planted to soybeans, averaging 9.8 million acres (12.31% of the national total) in the last 20 years. Iowa is a close second, averaging 9.7 million acres (12.18%) in that time. Illinois and Iowa are also the only states in which farmers have planted more than 10 million acres of soybeans in any year. Both states first broke the 10 million acres planted number in 1997. Illinois has had more years at 10 million acres or more planted (15) than Iowa (13), but only Iowa has planted 11 million acres to soybeans in a year (2001) according to NASS.

American farmers have been planting soybeans for over 100 years. More than one million acres of soybeans were planted when Congress initiated direct farm support policy in the Agricultural Adjustment Act of 1933, but soybeans were not included. In fact, soybeans did not become a program crop until the 2002 Farm Bill when Congress first included soybeans in the definition of “covered commodity” and provided farmers an opportunity to establish base acres for the crop (P.L. [107-171](#)). The steady and substantial increase in acres planted to soybeans is notable because most of it happened without any direct federal support for the crop.

When Congress finally added soybeans to farm programs, farmers established substantially fewer base acres of soybeans as compared to what they had been planting in the years prior. USDA reported that farmers established 53.55 million base acres of soybeans under the 2002 Farm Bill provisions ((ERS, [September 2005](#)). The calculation for establishing soybean base acres used the average acres planted from 1998 to 2001. NASS reports an average of just over 73.5 million acres planted in those years. This pattern of soybean base acres being well below planted acres persists to this day (see e.g., *farmdoc daily*, [July 20, 2023](#); [August 3, 2023](#)). For further perspective, Figure 2 presents an interactive map comparing acres planted to soybeans with soybean base acres by county. Both planted and base acres are averaged from 2014 to 2022 using data reported by USDA’s Farm Service Agency (USDA-FSA, “[Crop Acreage Data](#)” and “[ARC/PLC Program Data](#)”). Hovering over a county will provide the difference

between planted and base for soybeans, as well as the 2014 to 2022 average planted acres and average base acres.



This issue—the difference in base acres and planted acres for soybeans—presents one of many challenges for farm bill reauthorization. It also begs questions about farm policy and its development over the previous nine decades, most of which never included soybeans even as farmers planted increasing acres of the crop. Among these questions, for example, are the impacts of the fixed price triggers that Congress has written into farm bills and whether this makes soybean base acres less valuable because the programs are less likely to trigger payments (see e.g., *farmdoc daily*, August 10, 2023). Future articles will also explore the impact of early policies on farmers' increased adoption of soybeans, as well as what lessons can be drawn from decoupling and the most recent farm bills.

References

Abbott, Chuck. "Farm lobby pushes for new farm bill in early 2024." *FERN's Ag Insider*. November 16, 2023. https://thefern.org/ag_insider/farm-lobby-pushes-for-new-farm-bill-in-early-2024/.

Committee for a Responsible Federal Budget. "Upcoming Congressional Fiscal Policy Deadlines." November 17, 2023. <https://www.crfb.org/blogs/upcoming-congressional-fiscal-policy-deadlines>.

Coppess, J. "Farm Bill 2023: The Intersection of Base Acres and Reference Prices." *farmdoc daily* (13):147, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 10, 2023.

Coppess, J. "Farm Bill 2023: Planted Acres and Additional Pieces of the Base Acres Puzzle." *farmdoc daily* (13):143, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 3, 2023.

Coppess, J. "[Farm Bill 2023: Reviewing Pieces of the Base Acres Puzzle](#)." *farmdoc daily* (13):134, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, July 20, 2023.

Howell, Robert W. "Historical Development of the United States Soybean Industry." In *Soybean Research in China and the United States: Proceedings of the First China/USA Soybean Symposium and Working Group Meeting*. International Soybean Publications, INTSOY, Series No. 25 (College of Agriculture, University of Illinois at Urbana-Champaign, 1983).
https://pdf.usaid.gov/pdf_docs/PNAAR131.pdf#page=17

Hymowitz, Theodore. "The History of the Soybean." In *Soybeans: Chemistry, Production, Processing, and Utilization*. Lawrence A. Johnson, Pamela J. White, and Richard Galloway eds. (Urbana, IL: AOCS Press, 2008).

Hymowitz, Theodore. "On the domestication of the soybean." *Economic botany* 24, no. 4 (1970): 408-421.

Hymowitz, Theodore. "Introduction of the soybean to Illinois." *Economic Botany* 41, no. 1 (1987): 28-32.

Hymowitz, Theodore, and Jack Rodney Harlan. "Introduction of soybean to North America by Samuel Bowen in 1765." *Economic Botany* 37 (1983): 371-379.

Young, E., D.W. Skully, P. Westcott, and L. Hoffman. "Economic Analysis of Base Acre and Payment Yield Designations Under the 2002 Farm Act." U.S. Dept. of Agric., Economic Research Service, Report No. ERR-12 (September 2005), <https://www.ers.usda.gov/publications/pub-details/?pubid=44874>.