



# POTATOES: SUSTAINABILITY INDICATORS

## Understanding Potato Trends in Field to Market’s 2021 National Indicators Report

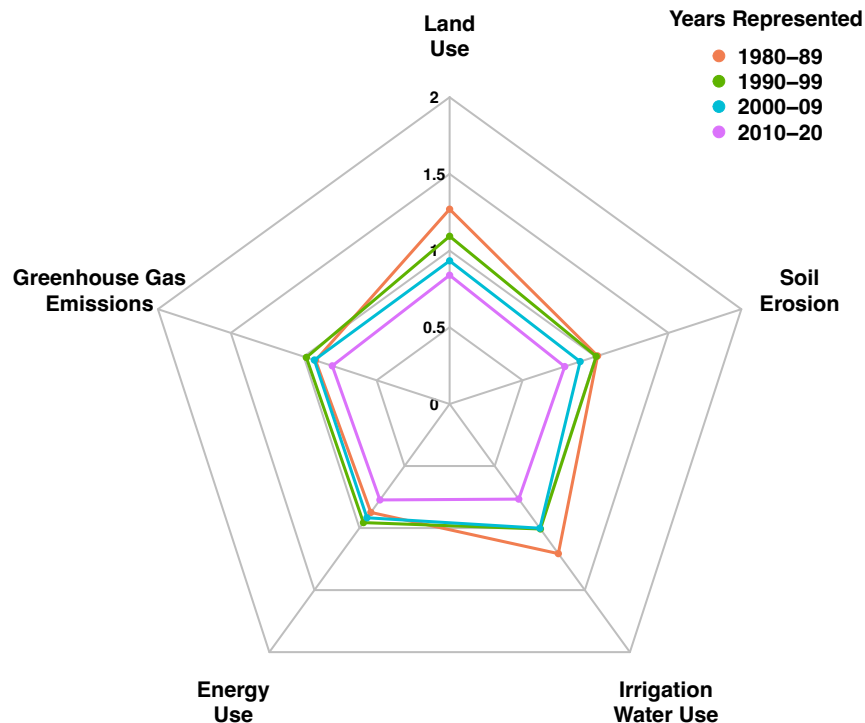
Field to Market’s 2021 National Indicators Report – *Environmental Outcomes from On Farm Agricultural Production in the United States* – analyzes sustainability trends from 1980-2020 at the national scale for 11 commodity crops. Released every five years since 2009, the fourth edition of this peer-reviewed report analyzes trends over time in sustainability performance for U.S. commodity crop systems, providing a critical assessment of where U.S. agriculture has made progress in driving improved environmental outcomes, and where additional efforts are needed to advance industry-wide sustainability goals.

Use this factsheet to explore key findings from the report for Potatoes, identifying trends in Land Use, Irrigation Water Use, Energy Use, Greenhouse Gas Emissions (GHG) and Soil Erosion. Explore the full findings and learn how to properly cite the 2021 National Indicators Report at [www.fieldtomarket.org/Report](http://www.fieldtomarket.org/Report).

## KEY FINDINGS FOR POTATOES

Potatoes are grown in many different regions of the country, with the largest acreage in northern and western states, including Idaho, Washington, North Dakota, Colorado and Wisconsin. Overall, potato production has become concentrated into fewer states over the study period.

This figure illustrates the difference in the average indicator value for each decade and demonstrates clear improvement over time in Land Use and Irrigation Water Use. The figure also illustrates improvement across all five indicators in the 2010-2020 period. Smaller values, closer to the center of the figure, represent a smaller environmental impact and more sustainable production of potatoes.



Indicator averages for 1998-2002 used to scale data for display on radar chart

Indicator	Value	Units
Land Use	0.00285	Planted Acres Per cwt
Irrigation Water Use	0.166	Acre-inches Per cwt
Soil Erosion	10.3	Tons Soil Loss Per Acre
Energy Use	69,900	BTU Per cwt
Greenhouse Gas Emissions	14.7	Pounds of CO <sub>2</sub> Eq. Per cwt

The table below provides the value for each indicator at the beginning of each decade (estimated from a fitted trend line).

Year	Land Use	Irrigation Water Use	Energy Use	Greenhouse Gas Emissions	Soil Erosion
	Planted Acres Per cwt	Acre Inches Per cwt	BTU Per cwt	Pounds of CO <sub>2</sub> e Per cwt	Tons of Soil Loss Per Acre
1980	0.0038	0.2057	62,999	13.8	10.8
1990	0.0033	0.1824	62,608	13.8	10.4
2000	0.0028	0.1664	68,544	14.5	10
2010	0.0025	0.146	60,323	12.9	8.5
2020	0.0023	0.1169	46,210	10.4	7.5

- The Land Use efficiency indicator shows steady improvement throughout the study period indicating an increase in crop yield per acre.
- Irrigation Water Use efficiency for potatoes has improved over time, especially from 1990 to 2010. While national irrigation application rates for potatoes have held steady, yield has increased, resulting in considerable improvements in efficiency of water use.
- Energy Use per unit of potato production increased from 1980 through 2000 and has since declined. Crop protection products are a major energy use component in potatoes and recent increases in use of fungicides and fumigants have influenced the indicator.
- GHG Emissions largely follow the same trend as Energy Use for potato production with reductions on a per unit of production basis. The 1990s had several years of high energy use and GHG emissions.
- Soil Erosion for potatoes has decreased throughout the study period with the largest improvements occurring in the early 2000s.

Improvements in the sustainability indicators for potato are largely attributed to improvements in crop yield and production efficiency. The National Indicators Report highlights some areas to focus to encourage and incentivize reductions of inputs and adoption of conservation practices that will lead to further improvement in these environmental outcomes.

Field to Market: The Alliance for Sustainable Agriculture brings together a diverse group of grower organizations; agribusinesses; food, beverage, restaurant, and retail companies; conservation groups; universities; and public sector partners to create opportunities across the agricultural supply chain for continuous improvement in sustainable agriculture. Field to Market offers America's food and agriculture industries an essential tool for unlocking shared value for all stakeholders—a common framework for sustainability measurement that farmers and the supply chain can use to better understand and assess environmental performance. Together, Field to Market and its members work to collectively meet the challenge of producing enough food, feed, fiber and fuel for a rapidly growing population while conserving natural resources and improving the ability of future generations to meet their own needs.



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