

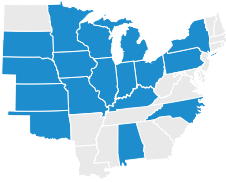
SUSTAINABILITY ANALYSIS

2022 PORK CARES SNAPSHOT REPORT

EXECUTIVE SUMMARY

About National Pork Board

The pork industry has had a legislative checkoff program since 1986. NPB desires to help pork producers share their sustainability story to support individual businesses across the country as well as represent the sustainability of the entire industry. Currently there are programs in place for promotion, research and education.



Quantifying the Impact of Actual Farm Practices

The EcoPractices® platform determines environmental benefits through its unique process that can pinpoint specific influences of individual agricultural practices. While agricultural practices have progressed to better care for natural resources, the ability to quantify the influence these practices have on sustainability has not kept pace. NPB seeks to put evidence-based measurements to its farm practices. Having such data brings more depth to decision-making. Short- and long-term goals can be based upon more meaningful information.

Swine Inventory:

3.3 million from **554 sites**

Defined as Sow and/or Finished Pigs per Year

Conservation Practice	Fields	Acres
Buffer	444	5,065
Forest	-	3,126
Grassed Waterway	514	1,527
Pollinator Habitat	-	69
Wetland	31	150

170,660 acres from **3,280** fields on **225** farms

WE CARE® ETHICAL PRINCIPLES

The We Care initiative was launched in 2008 as a joint effort of the National Pork Board, the National Pork Producers Council (NPPC), and state organizations representing farmers. Through the We Care initiative, they hope to earn the public's trust by making this industry better for all concerned — animals, farmers, food industry partners and consumers worldwide.



- > Food Safety
- > Animal Well-Being
- > Environment
- > Public Health
- > Our People
- > Our Communities

NATIONAL PORK BOARD'S ENVIRONMENTAL INITIATIVE



One pillar of the We Care Ethical Principles is Environment. This includes the use of manure as a valuable resource in a manner that safeguards air and water quality, includes air quality from production facilities to minimize the impact on neighbors and the community, and includes managing operations to protect the quality of natural resources.

- > Air Quality
- > Carbon Footprint
- > Emergency Action Plan
- > Manure & Site Management
- > Feed Management
- > Mortality Management
- > Water Conservation

CROP YIELDS

Barley	112 bu/ac	Potato	23 T/ac
Cereal Rye	85 bu/ac	Seed Corn	222 bu/ac
Corn Grain	203 bu/ac	Sorghum Grain	-
Corn Silage	22.7 T/ac	Sorghum Silage	5.8 T/ac
Fallow	-	Soybean	60 bu/ac
Hay	4.5 T/ac	Spring Wheat	74 bu/ac
Horseradish	4.5 T/ac	Sudan Grass	3.6 T/ac
Oats	102 bu/ac	Sweet Corn	9 T/ac
Pasture	-	Triticale	34 bu/ac
Pea	-	Winter Wheat	69 bu/ac

MANURE APPLICATION & SAVINGS

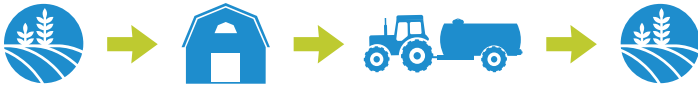
37% of acres received liquid manure fertilizer.



The average **cost savings** from manure applied to **65,476 acres** was estimated to be **\$134 per acre** based on a reduced need for commercial N, P & K resulting in a **total savings** of **\$8.8 million**.



Manure produced during pork production has many benefits. Manure provides macro- and micro-nutrients to the crops that are grown. The soils applied receive **organic matter** which increases **carbon storage**. In addition, **microbial activity** is stimulated. Producers prioritize **stewardship** by properly applying manure to benefit the fields that are applied.



IN-FIELD ENVIRONMENTAL OUTCOMES

The data is reflective of weather and soils influence in addition to implemented in-field management practices for the project year.†

OVERALL FARM

Net GHG Emissions **-0.44 T CO₂e/ac**
Soil Carbon Sequestered **0.28 T C/ac**
Soil Erosion Rate **1.14 T/ac**

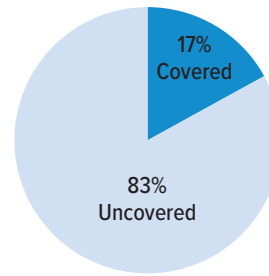
EROSION AVERAGE

The USDA National Resources Inventory provides estimates on average erosion for different systems across the U.S.*

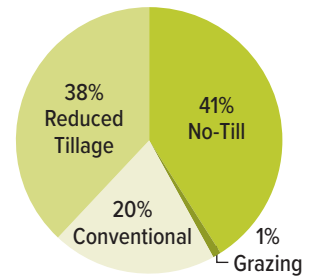


National Average
4.6 T/ac

COVER CROPS



TILLAGE



According to the 2017 U.S. Ag Census, the national average is **4% cover crop adoption**, **37% no-till adoption** and **35% reduced till adoption**.

SOIL CONDITIONING INDEX (SCI)

SCI is an NRCS tool that shows soil health trajectory. A positive SCI means a positive trajectory of soil health.

The fields in the project are an overall **positive (+) trajectory** for SCI.

CROPLAND

94%

MIXED FORAGE

2%

4%

IN-FIELD PRACTICE COMPARISON IMPACTS

When compared to conventional practices (i.e. conventional tillage, no cover crop scenario), in-field farm practices generated:‡

115,410 fewer tons of CO₂e, which is the same as

22,410 average passenger cars off the road for a year

31,035 tons of soil carbon sequestered

181,285 tons of soil saved instead of being lost to erosion, which is the same as

11,330 dump trucks of soil

613 tons of nitrogen saved instead of being lost through leaching and runoff.

132 tons of phosphorus saved instead of being lost through runoff.



Data provided by 225 pork producers in the United States through a program funded by the Pork Checkoff.

†Eocene Environmental Group, through its EcoPractices platform, estimates an environmental impact value for reducing greenhouse gas emissions, reducing soil erosion, and reducing nutrient loss due to reduced leaching. These estimates adhere to processes that are documented by the NRCS Technical Guides and publications from the EPA. These values are tailored to a specific location and participant's operation. Models used are supported by USDA, NRCS, other government agencies, and major universities. Modeled results include input data from public resources for weather, soils, and historical crop rotation. Greenhouse gas simulations were produced from the Greenhouse Gas Inventory (GGIT) tool developed by Soil Metrics, LLC (2021) <https://soilmetrics.eco>. The GGIT tool implements the USDA-sanctioned greenhouse gas inventory methods described in Eve et al. (2014) "Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity-Scale Inventory". The GGIT tool utilizes greenhouse gas modeling technology developed for the COMET-Farm tool, licensed by Colorado State University to Soil Metrics, LLC.

‡USDA, NRCS 2017 National Resource Inventory

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› Animal Well-Being	PQA+ Provided	96%
	TQA Provided	74%
	PQA+ Site Assessment Provided	95%
› Our Communities	Charitable Donations	\$845,965 49,120 lbs
	Community Presentations	170
	Volunteer Hours	18,355
	Volunteers Trained	33
	Jobs/Internships Given	987
	Scholarships Offered	9
› Our People	Additional Leadership Opportunities Offered to Employees	71
	Renewable Energy Generation	5.7 million kWh
› Environment	Area of Land for Pork Production*	1,390 acres
	Conservation Practices Adjacent to Barn Site Acres*	406 acres

To learn more about the U.S. Pork Industry Sustainability Goals and Metrics, please visit porkcares.org.

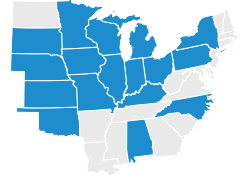


Data provided by 225 pork producers in the United States through a program funded by the Pork Checkoff. Usage per head is based on swine inventory.

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WATER USAGE

Tracking water usage is important to quantify the amount of water utilized within swine facilities to water the pigs, clean the barns and function as needed.



478 gallons per head

ENERGY USAGE

General energy use in a barn includes lighting, fans, feeders and temperature control.



52 kilowatt hours per head

MANURE PRODUCTION

639 million gallons of manure are produced



each year. This provides an estimated **\$8.8 million** in nutrients that are applied to crop fields as fertilizer.