



2018 U.S. Rice Industry Sustainability Report

Executive Summary

The U.S. rice industry's commitment to sustainability dates back generations, long before the word "sustainability" became a popular, if difficult to define, term.

The Rice Foundation commissioned this rice industry sustainability report to collect in one place the outstanding accomplishments of the past 36 years across key markers: land use and soil conservation; water use and quality; energy use and air quality; and biodiversity.

Thank you for your interest in the sustainability of U.S. rice. The U.S. rice industry is proud of its accomplishments and will continue to improve, leading the world in on-farm production efficiencies, environmental improvements, wildlife preservation, and food safety.

All segments of the U.S. rice industry are invested in sustainable production and processing practices because it is personal – rice farmers often live on the land they work, and rice mills are important economic drivers in their communities. Together they provide tens of thousands of jobs and inject billions of dollars into the economy – all while standing on a strong record of environmental stewardship.

Land Use and Soil Conservation

Often called land use efficiency, it can be measured by looking at how much land (in acres) is required to grow one hundred pounds of rice, also referred to as “a hundredweight” (cwt). In 1980, roughly 45 cwt of rice was produced per planted acre while that same acre produced nearly 75 cwt in 2015.

Soil conservation practices such as conservation tillage – in which rice is planted with no or minimal tillage into previous crop residue – protect the soil from erosion and loss of nutrients. Rice farming consistently has the lowest soil erosion on a per-acre basis compared to other crops.

How do rice farmers do it? Many utilize smarter and more sophisticated land management techniques like precision land leveling and conservation tillage. However, farmers are always looking for new innovative practices to improve the efficiency of their operation. Something that’s good for the environment and their bottom line.



Rice in the U.S. is grown on close to 3 million acres across six states: Arkansas, California, Louisiana, Mississippi, Missouri, and Texas. You could reconfigure that land into a strip almost two miles wide stretching from New York City to Los Angeles.

soil erosion

28%

per acre

land use efficiency

39%

Water Use and Quality

Rice is a water-dependent crop, however looks can be deceiving. Flooded rice fields can often appear to be “small lakes,” when in reality the water is just a few inches deep and serving multiple purposes – like preventing soil erosion, creating wildlife habitat, and naturally controlling weeds.

U.S. rice farmers use a variety of practices, like use of precision technology to track water use and weather conditions, to improve efficiency and reduce overall water use, but it is worth pointing out that not every technique will work on every farm. There are many variables that come into play, but with a commitment to research and continuous improvement, rice farmers continue to lead the way for agriculture.

Field runoff that contains excess sediments and nutrients can negatively impact water quality. Growing rice is a natural filtration system removing sediments and nutrients thus producing cleaner water when it leaves the field. U.S. rice farmers use the 4Rs of Nutrient Stewardship – applying fertilizer at the right source, the right rate, the right time, and in the right place.



Water Use

52%





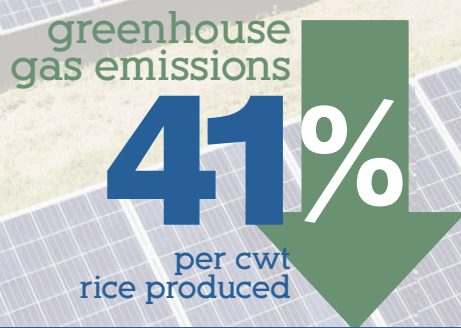
Energy Use and Air Quality

Multiple efficiencies, from more fuel-efficient farm equipment to on-farm advances that reduce the amount of water pumped to flood fields, use more precise fertilizer applications, and require fewer passes on or above the field have helped U.S. rice farmers make great strides in reducing energy use.

At the mill, renewable energy is becoming increasingly common, with enterprising millers working to convert waste — rice hulls — into energy, further reducing greenhouse gas emissions.

Across the industry, farmers and millers are integrating solar technology to help reduce energy costs with a goal to become energy neutral.

Over the past 36 years, rice conservation and innovation has led to improved air quality. This has been achieved through higher yielding varieties, advances in fertilizer application, the reduction of overall energy required to produce rice, and practices such as conservation tillage that reduce CO2 emissions.



Over the course of 36 years, energy use in U.S. rice production has decreased 34 percent.



Biodiversity

As impressive as rice conservation practices are regarding water, soil, and air, they should also be recognized for improving and enhancing vital wildlife habitats. Working rice lands provide millions of acres of life-sustaining resources for migrating waterbirds along with countless other animals that call the fields their home. Foraging waterbirds give back to the land in a myriad of ways as they search for feedstuffs in the grain residue left after harvest, helping to increase soil nutrients, straw decomposition, reducing weed and insect pressure and providing other important agronomic advantages.

While U.S. rice farmers have proudly provided critical wildlife habitat for waterfowl for decades, conservation efforts leapt forward in 2013 with the formal partnership between USA Rice and Ducks Unlimited (DU) in the Rice Stewardship Partnership (RSP). Utilizing matching grant dollars from USDA's Natural Resources Conservation Service's Regional Conservation Partnership Program (RCPP) and private partners, the RSP provides technical assistance and cost share funding to help farmers implement conservation practices on their farms. Through this unique partnership, public and private resources will be leveraged to positively impact over 700,000 acres of working rice lands by 2023.

\$3.4 billion
the value of habitat provided by overwinter flooded rice fields.



Rice land is used for more than just crop production, with 90 percent of the nation's supply of crawfish coming from Louisiana rice fields.

There are three pillars of sustainability: Environmental, Economic, and Social. They are co-dependent, intertwined — you cannot have one without the other two.



As the main economic driver for many small communities, the rice industry is committed to giving back through a variety of activities including sponsoring community sports and recreation and donations to local food banks, to name a few.

The U.S. rice industry contributes in excess of \$34 billion to the U.S. economy annually and provides jobs for more than 125,000 individuals in the U.S. On average, each rice farm contributes \$1 million to their local economy.



Scratching the Surface

Sustainability and conservation may begin at the farm, but these important values continue through the mill and down into the food supply chain. The U.S. rice industry is working to ensure the principles and accomplishments of our men and women are recognized for what they are: second-to-none.

This Executive Summary merely shared a few highlights of the exceptional work being done in our rice fields and mills. We encourage you to take a deeper dive by reading the full report, available on the USA Rice website. You can also contact The Rice Foundation for a printed copy.



The Rice Foundation is an equal opportunity provider

