



Central Nebraska Irrigation Project

WHO

Project Lead: The Nature Conservancy

Collaborators: Cargill, Nestlé Purina



WHAT

In 2018, Cargill, Nestlé Purina, and The Nature Conservancy (TNC) launched a three-year farmer-led program in Nebraska to improve water conservation, water quality, and soil health in the beef supply chain by focusing in the area where water is used most – to irrigate row crops used for cattle feed. The project aims to build resilience to drought in an important agricultural region by providing Nebraska farmers with a technology tool pack to help them be more efficient with irrigation, while also reducing labor time. Sensors record real-time field conditions by collecting hourly measurements on crop health and climate. Through Internet of Things (IoT) technology, farmers can control irrigation systems remotely. This program is expected to reduce water use in the beef supply chain, saving an estimated 2.4 billion gallons of irrigation water over three years.

WHY

More than 50 percent of the water used in US beef production is associated with irrigating row crop feedstock; for companies like Cargill and Nestlé Purina, this is an area of opportunity to advance water sustainability in their beef supply chains. In Nebraska, water for crop irrigation is drawn from the Ogallala Aquifer, the largest known aquifer on Earth and the main water supply for people in the High Plains region. The aquifer is replenished naturally by rainwater, and this program aims to alleviate potential water scarcity challenges by increasing efficiency and reducing the amount of water drawn for irrigation. Farmers are incentivized to participate not only because the project offers free technology and training, but also because the irrigation technology saves them time (remote management of irrigation systems from mobile devices) and money (lower groundwater pumping costs).

WHERE



Nebraska was chosen for this program because it contains the largest share of irrigated acres in the USA and the second largest of cattle population.



The idea for this program was born out of the Midwest Row Crop Collaborative, a multi-stakeholder group advancing water stewardship in key agricultural states. Both Cargill and The Nature Conservancy are founding members of the group.

For more information visit:

cargill.com/2018/the-nature-conservancy-teams-with-nestle-purina-and-cargill

CHALLENGES

Business: Unlike other industries, the beef supply chain is not vertically integrated, with different businesses — including hundreds of thousands of independently-owned farms, ranches, and feed yards — operating at several stages of production from crop growing and cattle care to cattle feeding to meatpacking. It is therefore challenging for a company with a beef supply chain to identify specific farmers who are growing the feed for cattle and engage with them directly.

Logistics: Data collection required for concept testing was hindered by a prolonged wet period in 2019, so the program will run for four years to collect the data needed to demonstrate the full results of a three-year program.

SUCCESSSES

- The adoption of technology by farmers was facilitated by TNC. The organization hosted community events, one-on-one trainings, and working sessions that facilitated learning by bringing together farmers, agriculture experts and tech providers.
- Farmers have achieved on average 15 percent more efficient water use, equivalent to saving 100 million gallons.
- Farmers are saving time and energy costs due to smarter water pumping enabled through the new technology.

KEY INSIGHTS

- TNC and Cargill leveraged existing relationships with farmers, which has been critical to the viability of the program. The group also engaged the Central Platte Natural Resources District, which helps manage the natural resources along the Platte River by working closely with farmers in the area, offering additional connection into the community. In addition, past pilots led by TNC in Western Nebraska helped demonstrate the effectiveness of this approach.
- One-on-one trainings and community events organized and led by TNC helped engage farmers to facilitate the uptake of new technology. The support (financial and technology) from the project's private sector partners made this possible.

SCALING & REPLICATING

Scaling and organic growth of the program is enabled by building relationships with farmers on the ground and encouraging peer-to-peer learning and knowledge share. This kind of program could potentially expand into other arid states in which farmers use pivot irrigation and rely on groundwater.

TAGS

Stewardship Strategies

Water Management
in Direct Operations

Value Chain
Engagement

Collaboration at
Watershed Level

Nexus Approaches

SDG 6 Targets

