

Universities In The U.S. And The Netherlands Team Up To Feed The World

University of Nebraska



How do you feed a growing population while protecting the environment? Using global data, University of Nebraska-Lincoln agronomist Patricio Grassini is helping agricultural stakeholders find common ground through the development of an online platform known as the Global Yield Gap and Water Productivity Atlas.

Developed in collaboration with Wageningen University in the Netherlands, the international team has helped stakeholders increase production on existing cropland.

"Currently, we are expanding cropland areas at a rate of 13 million hectares every year and destroying fragile ecosystems," said Grassini. "We need to understand how much more food we can produce on existing cropland — and where. The places with the biggest yield gaps have the biggest opportunities."

The platform, the world's leading database on agronomic data with local and global relevance, estimates water productivity, crop nutrient requirements and yield gaps for major crops in 70 countries and includes:

- actual and potential crop yield and yield gap,

- actual and potential water productivity,
- actual and minimum nutrient requirement,
- underlying data on weather, soil and cropping systems, and
- climate zones and technology extrapolation domains (TEDs).

The data serves research, strategic decision making and local-global actions that aim to improve yield and resource use efficiency by public and private sectors.

Jeewan Jyot, director of licensing at NUtech Ventures, the nonprofit technology commercialization affiliate of the University of Nebraska, worked with the team to develop a licensing strategy for the platform's data, which has been downloaded by more than 40,000 people worldwide. Companies pay to use the data for commercial purposes, but government users and nonprofits can access it for free.

The team also developed a corporate sponsorship model for the platform, allowing participating companies to select a level of financial commitment, which enables them to access the platform and offer feedback on new features and future directions.

The sponsorship program was implemented in February 2021 and helped the project become financially self-sustaining.

“Our goal was to reach a sponsorship level that allows us to update and expand the platform — and in the first two years, we’ve already exceeded that goal,” Grassini said. “With this support, our team can think big and continue addressing important demands in agriculture.”

Global Yield Gap Atlas was featured in the 2022 Sustainable Development Report, the annual assessment of progress of all United Nations Member States toward Sustainable Development Goals.

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