

## Nebraska Turfgrass Tech Means The Grass Is Always Greener

NUtech Ventures



It's usually the last thing on golfers' minds as they putt for par: the turf itself. Maintaining that turf, however, requires spreadsheets and calendars — and often, guesswork — to determine when to apply fertilizer and other products.

The University of Nebraska–Lincoln's Bill Kreuser, an assistant professor in the Department of Agronomy and Horticulture, wanted to make turfgrass management simpler and more sustainable.

To that end, Kreuser developed a software application that provides guidance for applying fertilizer and plant growth regulators — products that make grass grow slower — and launched a start-up company known as TurfGrade.

“My vision for GreenKeeper is to transform how the turf industry makes daily decisions, and discover and share turf research,” Kreuser said.

His app, [GreenKeeper](#), is based on research models that use weather data to determine how long managers should wait before reapplying products. He licensed the technology from NUtech Ventures, the University's technology

commercialization affiliate.

“Our goal is to take all this research and put it into an interface that is intuitive and user friendly,” said Kreuser, who is also a turfgrass specialist with Nebraska Extension. “We’re taking our research and turning it into a tool industry can use.”

In 2018, Kreuser was presented with the Emerging Innovator of the Year award, which recognizes a junior faculty member for recent contributions as an up-and-coming innovator at the University of Nebraska-Lincoln.

Today, one year after the start-up was formed, the company has nearly 6,000 customers globally — with 1,000 weekly users — spread across six continents and almost all 50 U.S. states. These customers include high-end golf, football and softball facilities that host major championships, as well as nine-hole golf courses in small communities, including several in Nebraska.

Kreuser’s interest in turfgrass science began in high school when he installed a putting green in his parent’s backyard. Thinking he wanted to be a golf course superintendent, he became involved in undergraduate research at the University of Wisconsin-Madison, which evolved into a career of turfgrass research and extension.

Many features in the first release of GreenKeeper were developed during Kreuser’s undergraduate research. He thought the models were helpful but needed a way to put them in the hands of turfgrass managers.

GreenKeeper now features 570 research models based on different products, grasses and management practice, including guidance for pest control and soil testing. Ultimately, the app is successful because it provides two-way communication, Kreuser said, as users enter data and receive personalized guidance.

A customer himself, Kreuser still has a backyard putting green and manages it with GreenKeeper.

## **Behind the Green**

Kreuser worked with NUtech Ventures to develop a royalty structure that fit his growing startup company.

“NUtech has been supportive and flexible,” Kreuser said. “With apps and websites, many customers expect services to be free until you’re more established. The structure of our startup license is allowing us to reinvest money into developing our business and grow.

As a result of that growth, Kreuser has hired recent graduates from computer science programs at the University of Nebraska-Lincoln and University of Nebraska Kearney. He is also considering industry partnerships to reach more customers.

“NUtech has your back as a new business owner,” he said. “They explain how to look at business decisions for the long term, which helps us make decisions that are right for our company and product.

*Lana Koepke Johnson contributed to this story.*

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