



BRENT NELSON

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-Brent Nelson

REALITYWORKS SUCCESS STORY

New Tool Brings New Engagement Opportunities to Illinois Agriculture Classroom

Students who entered Brent Nelson's Illinois agriculture classroom on the first day of the 2019-2020 academic year were met with a big surprise: A new, freestanding hydroponics system, its LED lights emitting a soft, pink glow and its three vertical shelves shiny with anticipation of sprouting seedlings, nutrient-rich water and, eventually, greenery.

"When my students walked into the classroom that first day, they were amazed," said Nelson, who teaches agriculture to ninth-through twelfth-grade students at Franklin Junior Senior High School in Franklin, IL. "It's flashy; it looks like it's from the year 2050, and truly, the flashy look of it helps – before students even know what it is, they're looking at it; they're interested in it... and once you get their attention and engage them, it's hard to lose it."

Earlier this year, Nelson was selected from a pool of educators across the country to beta-test Realityworks' new Plant Producer Hydroponics Educational System. One of two units the company offers for hydroponics instruction,

this production-level growing system includes LED grow lights, a water pump, an eight-gallon water tank, built-in fans for proper air circulation and a control panel for easy monitoring and grow setting adjustment. It features 42 grow sites on three vertical shelves.



Above, Nelson's high school agriculture students harvest their first batch of lettuce grown in his Plant Producer Hydroponics Educational System. Students donated the lettuce to be used in school lunches that week.

When his unit arrived over the summer, Nelson was a little worried about setting it up, having never used a hydroponics system before. However, the unit came fully assembled and the illustrated instructions included with the unit made getting started easy.

"It was very straightforward – just

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connect a few cords and look through the materials," said Nelson. "I used the user guide to review the different amounts of nutrients, and it was really simple. I didn't know what I was doing at first, and it's just that easy to understand – you just sit back and relax and watch it go."

Nelson, a young educator in his second year of teaching, says he jumps at any chance engage more students in agriculture and his school's chapter of FFA, which he advises. Nelson is particularly thrilled about exposing students to agriculture who have never experienced it before – students who did not grow up on a farm, for instance, or who aren't aware of the many valuable career opportunities



Illinois agriculture students were greeted by the sight of a brand-new hydroponics system on their first day of school. Only weeks later, they harvested their first batch of lettuce.

there are for agriculture students. Hydroponics gives him that chance.

"They may have had math homework, history lectures, but students walk in and see this hydroponics system, learn about the hands-on opportunities, and they're excited," said Nelson. "Our hydroponics unit has helped bridge the gap between farm kids and non-farm kids. It's one of the things that any student can connect with and use to get a little more understanding of plant science, of how things grow."

Nelson offers a variety of courses to his freshmen-senior students, including Ag Science, Greenhouse Management, Ag Business and Intro to Agriculture. He's incorporated his hydroponics system into each course, using it to demonstrate plant science concepts, compare conventional versus modern farming, demonstrate the importance of producing more with less, and market and sell produce to support FFA.

"We're used to just seeing corn and



As his high school students become more involved in hydroponics, Illinois agriculture teacher Brent Nelson hopes they will become interested in related activities like FFA

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Illinois high school agriculture teacher Brent Nelson is using hydroponics to introduce his students to a variety of modern farming topics, including the importance of growing more with less.

bean fields, but this provides an alternative to show students different plants," said Nelson. "It's in every single class a little bit – and every single class, every single student, that's the first thing they want to check on – how has it grown since they saw it last."

Nelson has even collaborated with Franklin High School's food service employees to serve his first harvest of lettuce in the school lunches, an idea he had when he first learned of the opportunity to beta-test the system, and which he broached with school administrators – and garnered support for – immediately.

"Everyone is on board with the farm-to-school concept – it will save costs for the school, and give students pride in what they're doing in the classroom," said Nelson.

To orchestrate his first lettuce harvest, Nelson said he simply let the school's food service employees know when the lettuce would be ready, and they checked weekly on growth to estimate quantity. Once they understood the amount of

lettuce Nelson's classroom would provide, they adjusted their usual order of greens accordingly and his students proudly served their first meal.

"I think it's one of those things that really gets the students engaged because they know where the food they've grown is going," said Nelson. "It's not just a homework assignment. This is something you're doing for a good purpose; it's going back to the students and the school."

Since Nelson began teaching at Franklin last year, FFA enrollment has increased by 30 percent. Enrollment so far this year has been steady, but Nelson is already seeing new faces in his agriculture classes – and before school, at lunch and after school.

"I've had students from the elementary school stop by, junior high students stop by... I have fifth-graders already asking how they can be in FFA," said Nelson. "I'll use the system in the spring for our Agriculture Day, and we'll showcase it to kindergarten through eighth-grade students, get them excited about Ag. My goal is to expose as many kids as possible to this type of technology and modern agriculture and what can be accomplished with tools like these."