

# Voices From Our Network

## The Civic Scientists

The next generation of continuous living cover (CLC) researchers reflect on the current moment in history and reimagine the future.



**Green Lands**  
Blue Waters

### Diversifying the Agricultural Playing Field

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Diversity. It is a word that comes up in our vocabulary nearly every day. In agriculture, we use it to describe rotational cropping systems, the microbiome of the soil, and the importance of genetic diversity for plant improvement, among other phenomena. Outside of agriculture, diversity most often refers to people of different ethnicity, gender identity, religion, socio-economic status, or race coexisting peacefully. Diversity in the latter sense is critically lacking in agriculture. In the United States agriculture industry, minorities are still severely underrepresented in land ownership, industry management positions, and in the academic leadership realm. We cannot claim diversity is the cornerstone of sustainable agriculture without first addressing this disparity.

Major systemic issues require major systemic solutions. While I am only one person, I strive to be a part of changing agriculture for the better as a scientist and educator. I was drawn to the Kernza® (Intermediate Wheatgrass) breeding program at the University of Minnesota for my PhD because I wanted to learn about the agronomics, breeding, and genetics of a perennial, sustainable cropping system. While there are ample unknowns about this new perennial crop, there are several knowns that make it a promising crop for both profitability and

sustainability. I am energized by the positive systemic impacts of Kernza® for producers, the environment and society. While sustainable agriculture research motivates me, teaching and mentoring students fills my soul. Students are our future, and I feel my true calling is to educate and learn from the next generation of agriculture students.

As an agricultural educator committed to promoting diversity in my classroom, I see my responsibilities as two-fold: (1) broaden the pipeline of students recruited into agricultural sciences and (2) use inclusive teaching techniques to support students of all backgrounds and encourage civil discourse. First, we need to change the pipeline of students being recruited to agricultural sciences. When recruiting members for a team or an academic major, we consistently choose students from a “proven successful” source. In agricultural sciences, colleges often recruit from the same high schools with agriculture programs. However, this tactic fails to consider students with greater talent or new, alternative ideas from unconventional backgrounds that ultimately could be better selections for the team. We will not achieve diversity in agriculture by continuing to recruit from the same schools and areas of the country. Extending the recruitment pipeline

would highlight new voices and lead to more diversified leadership in the agriculture industry. Moreover, achieving and maintaining diversity is impossible without a learning environment that gives fair, accommodating opportunities to all students. In order to diversify the network of leaders in agriculture, all students must be equipped with the tools needed to thrive in agriculture classrooms. Classrooms need to be inclusive and equitable for students. For my classroom, this means using teaching techniques that complement various learning styles and abilities, listening to and learning from students of color and those from non-traditional backgrounds, and teaching in a collaborative, active learning atmosphere to encourage meaningful discussion and identify learning needs. A thriving, diverse student body opens the floor to world-changing discussions. My hope for these students is that they will move on to be an innovative cohort of agriculture professionals, leading to actual systemic change in agriculture. If we all make better efforts to listen and learn from one another,

I take heart in the future of agriculture as a more equitable environment for people of color and individuals from all backgrounds to thrive.

Our generation is faced with a grand challenge: How will we feed nearly 10 billion people in 2050? Without fresh perspectives and significant agricultural innovation, we will not meet these demands. We need people who understand the food supply problems in urban areas. We need people who have experience farming small scale or large scale. We need people who have no experience in agriculture but understand the ecological impacts on our environment. We need economists and developers who can establish markets for new sustainable crops. We need diversity in this industry. I am optimistic that we will meet the 2050 demands if we all commit to listening, learning, and devoting ourselves to promote change. I look forward to forging a path as a scientist and teacher to play my part in the systemic diversification of agriculture.



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*Hannah is a PhD Student at the University of Minnesota studying Plant Breeding and Molecular Genetics. Her PhD project focuses on quantifying the breeding progress of intermediate wheatgrass, Kernza®, a new perennial grain crop. While she is passionate about feeding our world using sustainable agricultural practices and advanced breeding technologies, she considers communicating science to learners of all backgrounds and educating future scientists as her true calling.*