

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

Daniel Hayden

2020

As part of my doctoral research in the plant pathology program at the University of Wisconsin-Madison, I am involved with Indigenous growers in Wisconsin integrating no till or intercropping systems with culturally significant corn. More specifically, I am interested in how soil microbes respond to these highly diverse plant systems while tracking soil health factors. I actively seek to use the knowledge of Indigenous growers to answer agronomic (no-till and intercropping) and ecological (plant and microbial diversity) questions. As a Native researcher myself, an enrolled citizen of the Comanche Nation, I seek to bring Indigenous perspectives and ideas to the forefront of agricultural research. My primary obligations always lie with my own tribal communities and the Indigenous growers with whom I partner for my research. Everything I do and learn, I use for the betterment of my own community, which is the catalyst for why many Indigenous peoples enter higher education.

However, there is a great irony in my work in seeking to scientifically validate the agricultural practices of Indigenous peoples to non-Indigenous growers who produce on

the very lands taken from the Indigenous peoples. Our current conventional cropping systems, relying on high fertilizer input, monocultures, and tillage, are maintained out of a goal for an optimization of yield. This is a short-term view that doesn't account for the long-term sustainability of the system as a whole. What I find particularly interesting is the increased support for transitioning to more sustainable and organic agriculture practices. The irony of this transition is that these practices were already in place in some form by the Indigenous peoples of these agriculture heavy states for thousands upon thousands of years. What needs to occur is a combination of both traditional knowledge from Indigenous peoples combined with mechanistic science to form a more wholistic and respectful view of land and sustainable agriculture. This collaboration of perspectives will only be successful if we acknowledge how we are here to do this research.

I would like to see a broader understanding and recognition that our agricultural research is not possible without the stealing and active dominion over land from

Indigenous peoples. This theft was entirely systematic in the formation of highly respected land grant universities through the 1862 Morrill Land-Grant Act, which allowed states to sell stolen land to fund their higher education institutions. In her book, "The White Possessive," Aboriginal author Aileen Moreton-Robinson describes how difficult it is to truly distance ourselves from this history of Indigenous dispossession and genocide when we benefit every day from it. As scientists at a land grant university, we as a whole benefit from this dispossession and genocide meant to uphold white supremacy, and we must come to terms with that fact.

To reconcile and move forward, I believe we must elevate and fully recognize the plethora of Indigenous knowledge regarding agriculture and land management. This is not an easy task, as there is already a tenuous relationship between researchers and Indigenous communities. Science is a form of colonialism with a long history of

extraction. Indigenous peoples are forced to protect their agrobiodiversity from researchers and biotechnology companies, who have taken advantage of the unique biodiversity held by Indigenous peoples with no reciprocation for hundreds of years. The action of scientific data collection provides an easy cover for piracy of culturally significant plants. Fortunately, we are in the midst of

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Indigenous food sovereignty movements that are reclaiming traditional practices and foods. We must move past the narrative of science being the ultimate force for truth and good for humankind. If we seek to truly heal the land through scientific advancements, we must include the original stewards of that land. We have been left out of the conversation for too long.



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Daniel Hayden (Comanche, Pawnee, Muscogee Creek) is a PhD student at the University of Wisconsin-Madison in the Department of Plant Pathology in the Silva/Lankau Lab. His research project is working with Indigenous corn growers in Wisconsin utilizing no-till planting and interseeding both perennial and annual cover crops with their heirloom/landrace corn to understand the role of soil microbes in these highly diverse cropping systems. Daniel is driven by his own background as an Indigenous scientist toward ensuring that the perspectives and knowledge of Indigenous peoples are recognized, respected and elevated. He is committed to sharing his experiences in these Indigenous food sovereignty movements and illuminating how food is inseparable from culture and health, both ours and our environments'.