

The purpose of this project is to create a common, unifying experiment, replicated at multiple Midwestern U.S. locations, testing the effects of planting the Three Sisters (maize, beans and squash) together versus individually on soil and plant health. **This project will engage Native citizen scientists and bring communities together in a network of experiments for a greater understanding of how the Three Sisters affects soil and plant health.** The Three Sister Project at ISU has two components, working with Native gardeners to grow Three or Four Sisters plots in their own communities and growing a plot at ISU. Our plot actually contains Four Sisters, corn, beans, squash, and sunflowers. We worked with our advisory board to determine what the plots would look like, how the sisters would be cared for, and where the seeds would come from. As a group, we selected seeds from the USDA and Seed Savers Exchange that needed to be rematriated and donate the seeds produced back to Native communities that could welcome them home. We also donate our produce to people who need it.

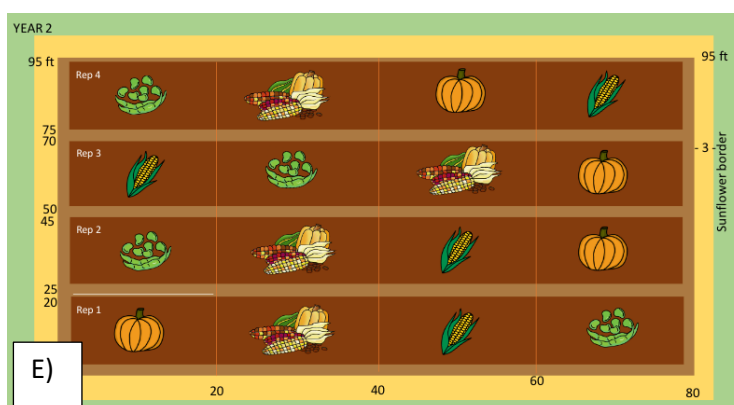
### Collaborators and Advisory Board

Nebraska Indian Community College (Omaha, Santee Sioux, Sioux City urban communities), Dream of Wild Health (Minneapolis/St. Paul Native communities, Natives people throughout Minnesota), Oneida nation of Wisconsin and the Menominee nation of Wisconsin.



Each plot is comprised of 16 mounds of the determined treatment. A) A maize monocrop plot. B) A bean monocrop plot. C) A squash monocrop plot. D) Three Sisters plot. E) 2021 randomized replicated blocked experiment layout.

Data Collected: yield, soil temperature and moisture, SPAD, flowering dates, smut biomass, soil microbial biomass carbon and nitrogen, and soil available nutrients.



Research Team: Dr. Christina Gish-Hill, Dr. Ajay Nair, Dr. Marshall McDaniel, and Dr. Donna Winham

Graduate Students: Derrick Kapayou, Emma Herrighty, and Valeria Cano Camacho



Scan for project website! Join our group on Facebook!

Three Sisters Gardening Project