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Recent revitalization movements across Native North America have centered around the reclamation of traditional gardening methods. A notable example is the Three Sisters Intercropping (3SI), which relies upon the companion planting of corn, bean, and squash. While this method of Indigenous agricultural and polyculture is well known, very little research has been conducted on the agroecological benefits of the system. At Iowa State University, the Three Sisters Intercropping project has collaborated with Native communities across the Midwest to explore the agronomic benefits of the 3SI. Across two field seasons, a randomized complete block experiment was established to compare the impact of the 3SI on plant health and yield, when compared to each of the crops in monoculture. Grown on certified Organic land at ISU's Horticultural Research Station, and using Indigenous methodology approved in collaboration with a Native advisory council, we have established that the Three Sisters Intercropping provides sound benefits. Yield benefits are best measures with the land equivalent ratio (LER), which demonstrates the amount of land that can be saved, while maintaining yield, through intercropping practices. If the LER value exceeds 1, as ours does, then there are benefits to growing the crops together. Our results also demonstrate the resiliency of intercropping systems in the face of environmental, pest, and disease impact. Such findings, which build upon generations of traditional ecological knowledge (TEK) by the communities who have developed these systems, increase scholarly understandings of how these crops work well together. Through this project's collaborative network of citizen science, it is hoped that more Native communities will be able to revitalize their traditional growing systems, which can have lasting impacts on food security and sovereignty.