

Indigenous Ingenuity for Modern Survival

4 TIME-TESTED PRINCIPLES

Modern agriculture needs Indigenous wisdom, says Michael Kotutwa Johnson, Ph.D., assistant specialist at the University of Arizona School of Natural Resources & the Environment. A 250th-generation Hopi farmer, he relies on this wisdom as he seeks health and well-being for his people.



Do more with less.

Pare down the inputs required for our agricultural practices and modify our dietary habits to address inequality and natural resource scarcity. Learn from generations that, for example, have raised their crops without manmade irrigation in landscapes receiving only six to ten inches of rain per year (i.e., Hopi tribes).



Adapt to the land.

Ask how we can adapt our practices to fit our places. “We force the land to adapt to us instead of adapting to the land,” says Kotutwa Johnson, “and the land has suffered.”



Restore the narrative.

Change our definitions of innovation and ownership. “Tribes in the Southwest have been domesticating crops for thousands of years,” says Kotutwa Johnson, “but it’s corporations that profit. They steal, manipulate, and patent genetic material from those seeds. Indigenous communities need to be recognized and benefit along with everyone else.”



Challenge the paradigm

De-emphasize resource-intensive farming practices, survival seed vaults, and land and seed manipulation. Instead, focus on increasing crop and genetic biodiversity. “Seeds are like our children. They need to grow alongside us, getting the nurture they need to keep up with the changing environment.”



Research, Innovation
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Research Development Services

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PROJECT SPOTLIGHT: IndigiSEED

Kotutwa Johnson is growing indigenous seeds at three locations: on UArizona land in Tucson, at Arcosanti in Yavapai County, and on his relatives' clan land on the Hopi Reservation in northeastern Arizona. These three different soils, elevations and temperatures enable him to test how these environmental factors affect the crops' nutritional density. His aim is to help Indigenous communities determine whether they will continue to grow these crops.



Kotutwa Johnson inherited this photograph of his grandparents, father, and aunts at their farm on the Hopi reservation land circa 1950. The same farm is one of the three environments Kotutwa Johnson is studying for receptivity to native seeds.



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