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# Is Reintroducing Acorns into the Human Diet a Nutty Idea?

If harvested sustainably and treated to remove bitter tannins, acorns may once again have a more prominent place in the kitchen

By Dawn Starin on May 16, 2014

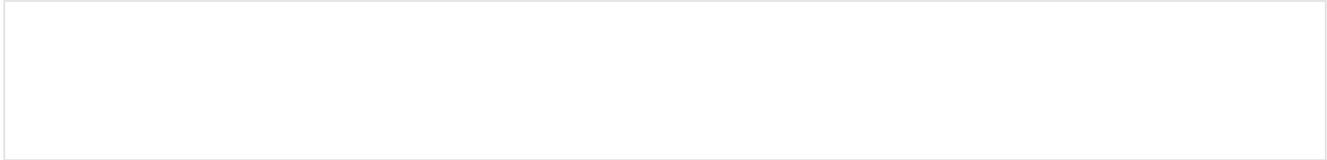




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Although bitter, these acorns from a red oak species that grows along the California coast are edible after leaching. Credit: Dawn Starin



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As the world's breadbaskets strain to meet the demands of the Earth's growing population, already more than seven billion strong, we could use another nutritional, ecologically friendly food source. Could acorns, the fruits of the oak tree, be the answer? Certainly, they are beginning to draw renewed interest in the hunt for sustainable alternative food sources.

Over the past decade various Web sites, magazines and newspapers have recommended that the occasional acorn-based items be reintroduced into our diets. With a growing interest in foraging for local, edible wild plants, eating new and ever-more exotic food items and the need (both real and imagined) for gluten-free ingredients sweeping through parts of the Western world, is it possible that acorns—small nuts that fit all of these criteria—could be on the verge of a dietary comeback.

Clearly, acorns have always been a major component in the diets of various species of wildlife; insects, birds and mammals obtain much nutritional value from ingesting them. In fact, Janet Fryer, a plant ecologist with the U.S. Department of Agriculture Forest Service,

says that “oak species with their large, nutrient-rich acorns, may be the single most important genus used by wildlife for food and cover in California forests and rangelands.” Acorns are also an important

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hogs in Europe—have been fed a diet of acorns for centuries.

Although acorns rarely feature in today’s diet, their appeal was not lost on our human ancestors. Recent studies on Palaeolithic hunter-gathers in Grotte des Pigeons in Morocco suggest that acorns were a major food item in their diet. Balanophagy—the practice of eating acorns from the oak and tan oak genuses, *Quercus* and *Notholithocarpus*, has played an important part in the diets of many cultures around the world. In fact, the Roman natural philosopher, Pliny the Elder, regarded the sacred oak as the “tree which first produced food for mortal man.”

Throughout time and across continents, acorns were eaten raw, roasted and boiled, and have been used to make oil, soup, mush, flour, coffee and quick snacks. The dietary and energetic components of acorns and their easy availability probably made them an important food item in the past, says Danny Rosenberg of the The Zinman Institute of Archaeology Laboratory for Groundstone Tools Research at the University of Haifa

Eating acorns was particularly important for many Native Americans living in California where oak trees were an abundant, reliable, naturally occurring resource. In fact, acorns were the staff of life for many of the indigenous people in California for millennia, says author and ethnobotanist Kat Anderson. Evidence has shown that acorn nutshell is the most abundant charred plant food residue in

archaeological sites in all regions of central California. Although the acorn is no longer the focus of daily life for Native Americans, they still gather, prepare and eat foods made from acorns at special

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however, that in the process of gathering acorns, native Californians used (and continue to use) sustainable gathering practices. They had/have rules: “Leave some of what is gathered for the other animals” and “not waste what you have harvested.” Is it now time to put the acorn back on the menu?

### **Why acorns?**

There are hundreds of different oak species scattered around the world, and their productivity and nutritional content varies with the species and local environment. In general, acorns appear to be higher in caloric content per unit weight than cereal grains, a reliable source of vitamin C and starch, and high in magnesium, calcium and phosphorus. It is even thought that the high quality of *jamón ibérico de bellota*, a ham made in Iberia from pigs fed on a diet of acorns (and considered by many to be one of the finest hams in the world), is due to the high level of antioxidants in the acorns, which help to prevent lipid oxidation.

Because of its low glycemic and insulin indices, Wendy Hodgson, herbarium curator and senior research botanist at the Desert Botanical Garden in Phoenix, has suggested that some acorns may actually offer protection from dangerously high increases in blood-glucose levels after meals, based on research conducted on River Pima staple foods ([pdf](#)). Unfortunately, most acorns also contain bitter and astringent water-soluble tannins that make them inedible in their raw form. These tannins, however, can (and should) be

leached out of the acorns using various traditional or modern processes. There are almost as many ways to leach acorns as there are species of oaks. One of the most common methods is to boil the

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bitterness is removed.

There are many pluses to acorns: Gathering acorns is relatively easy. They are easy to store. Whole acorns dried in the shell may last for several years ([pdf](#)). And, they are potentially an ecologically friendly food item. Unlike many other nut and grain sources, oaks are not dependent on massive inputs of water, fertilizer and pesticides and require no farming practices although there is a considerable amount evidence that fires were traditionally and regularly set to improve acorn productivity. Although oaks and their environment were traditionally managed in order to nurture their health and vigor as well as increase the numbers of various plant species, control some diseases and provide resources for both humans and other species ([pdf](#)), this form of management did not result in plantation-style orchards as is the case today with most nut trees. Rather, it resulted in oaks and all their associated biodiversity remaining embedded in a natural system.

### **Sustainability questions**

Before jumping on the acorn bandwagon, it should be noted that entire oak ecosystems, often seen as biodiversity hotspots, are now declining around the world. The Red List of Oaks, published jointly by Botanic Gardens Conservation International (BGCI) and Fauna & Flora International via the Global Trees Campaign ([pdf](#)), identified at least 78 wild oaks in danger of extinction, from a global total of over 500 species. It is not entirely clear why oaks are declining. The

spread of pathogens, fire suppression, increased acorn consumption by rapidly increasing animal populations, exotic pests, land use changes, livestock grazing, the invasion of pine forests, climate

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implicated.

If threatened oak species are targeted or acorns become the next “must-have” gastronomic item sweeping onto supermarket shelves and into shopping carts, what will happen to the oak—a majestic symbol of loyalty, renewal and strength, a national symbol for many nations, a tree venerated in pagan societies? Obviously, as with the harvesting of all wild edibles, the ecological friendliness of acorn-gathering depends on safe and sustainable practices. This concern could be particularly important when harvesting the nuts because of the existence and potential spread of sudden oak death and oak wilt.

### **Sustainability is paramount**

Eating acorns seemed to make both nutritional and ecological sense in the past. Perhaps it will again as long as sustainable practices are maintained.

Ecologist, sustainability consultant and author David Bainbridge, who helped popularize balanophagy, is a firm believer that sustainable, local harvesting of acorns should be encouraged. As long as they are gathered from nonendangered species—and the practice remains a sustainable, small undertaking, an educational tool or perhaps a family excursion to the local oaks—it should not create a problem for the trees and the wildlife that relies on them, says Peter Smallwood, professor of biology at the University of Richmond, who spent time studying both oaks and gray squirrel food preferences. It

may even help maintain oak populations by giving them a renewed importance among humans. Lots of oaks are widespread and common—these species should be able to sustain controlled

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widespread and common oak species, according to Sara Oldfield, secretary general of BGCI. All around, it could be a win-win situation.

*For those interested in sustainable and traditional collecting, leaching, and cooking methods the following web sites offer advice.*

[http://www.californiaoaks.org/ExtAssets/acorns\\_and\\_eatem.pdf](http://www.californiaoaks.org/ExtAssets/acorns_and_eatem.pdf)

<http://nativeamericannetroots.net/diary/1055>

<http://www.theatlantic.com/health/archive/2010/12/recipes-for-the-mighty-acorn-a-forager-experiments/67228/>

<http://www.dailykos.com/story/2011/09/07/1014246/-Indians-101-Acorns#>

<http://www.thepeoplespaths.net/NAIFood/acorns.htm>

[http://www.earthisland.org/journal/index.php/elist/eListRead/this\\_thanksgiving\\_consider\\_cooking\\_with\\_acorn\\_flour/](http://www.earthisland.org/journal/index.php/elist/eListRead/this_thanksgiving_consider_cooking_with_acorn_flour/)

[http://www.fs.fed.us/psw/publications/documents/psw\\_gtr217/psw\\_gtr217\\_39.pdf](http://www.fs.fed.us/psw/publications/documents/psw_gtr217/psw_gtr217_39.pdf)

<http://www.iloveacorns.com/>

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## ABOUT THE AUTHOR(S)

### Dawn Starin

Dawn Starin, an anthropologist, has spent decades doing research, mostly in Africa and Asia. Her articles have appeared in publications as varied as Behaviour, Critical Asian Studies, The Ecologist, Gastronomica, The Humanist, Journal of the Royal Society of Medicine, The New York Times, and Philosophy Now.

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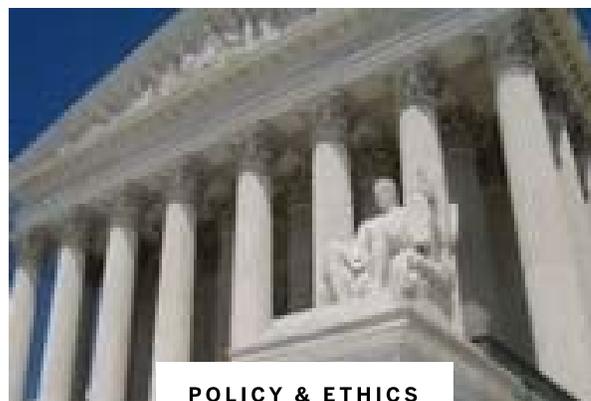
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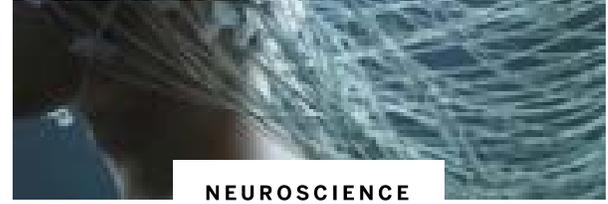
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