Living with GMOs

A Letter from America

An open letter to the citizens, politicians, and regulators of the UK and the rest of the EU about the hazards of genetically modified crops

We are writing as concerned American citizens to share with you our experience of genetically modified (GM) crops and the resulting damage to our agricultural system and adulteration of our food supply.

In our country, GM crops account for about half of harvested cropland. Around 94% of the soy, 93% of corn (maize) and 96% of cotton grown is GM.[1]

The UK and the rest of the EU have yet to adopt GM crops in the way that we have, but you are currently under tremendous pressure from governments, biotech lobbyists, and large corporations to adopt what we now regard as a failing agricultural technology.

Polls consistently show that 72% of Americans do not want to eat GM foods and over 90% of Americans believe GM foods should be labeled.[2] In spite of this massive public mandate, efforts to get our federal[3] and state[4] governments to better regulate, or simply label, GMOs are being undermined by large biotech and food corporations with unlimited budgets[5] and undue influence.

As you consider your options, we'd like to share with you what nearly two decades of GM crops in the United States has brought us. We believe our experience serves as a warning for what will happen in your countries should you follow us down this road.

Broken promises

GM crops were released onto the market with a promise that they would consistently increase yields and decrease pesticide use. They have done neither.[6] In fact, according to a recent US government report yields from GM crops can be lower than their non-GM equivalents.[7]

Farmers were told that GM crops would yield bigger profits too. The reality, according to the United States Department of Agriculture, is different.[8] Profitability is highly variable, while the cost of growing these crops has spiraled.[9] GM seeds cannot legally be saved for replanting, which means farmers must buy new seeds each year. Biotech companies control the price of seeds, which cost farmers 3-6 times more than conventional seeds.[10] This, combined with the huge chemical inputs they require, means GM crops have proved more costly to grow than conventional crops. Because of the disproportionate emphasis on GM crops, conventional seed varieties are no longer widely available leaving farmers with less choice and control over what they plant.[11]

Farmers who have chosen not to grow GM crops can find their fields contaminated with GM crops as a result of cross pollination between related species of plants[12] and GM and non-GM seeds being mixed together during storage.

Because of this our farmers are losing export markets. Many countries have restrictions or outright bans on growing or importing GM crops[13] and as a result, these crops have become responsible for a rise in trade disputes when shipments of grain are found to be contaminated with GM organisms (GMOs). [14]

The burgeoning organic market here in the US is also being affected. Many organic farmers have lost contracts for organic seed due to high levels of contamination. This problem is increasing and is expected to get much bigger in the coming years.

Pesticides and superweeds

The most widely grown types of GM crops are known as "Roundup Ready" crops. These crops, mostly corn and soy, have been genetically engineered so that when they are sprayed with the herbicide Roundup® – the active ingredient of which is glyphosate – the weeds die but the crop continues to grow.

farmers to spray even more. Heavier use of herbicides creates ever more "superweeds" and even higher herbicide use. A recent review found that between 1996 and 2011, farmers who planted Roundup Ready crops used 24% more herbicide than non-GMO farmers planting the same crops.[15]

If we remain on this trajectory with Roundup Ready crops we can expect to see herbicide rates increase by 25% each year for the foreseeable future.

This pesticide treadmill means that in the last decade in the US at least 14 new glyphosate-resistant weed species have emerged,[16] and over half of US farms are plagued with herbicide-resistant weeds.[17]

Biotech companies, which sell both the GM seeds and the herbicides,[18] have proposed to address this problem with the creation of new crop varieties that will be able to withstand even stronger and more toxic herbicides such as 2,4-D and dicamba. However it is estimated that if these new varieties are approved, this could drive herbicide use up by as much as 50%.[19]

Environmental harm

Studies have shown that the increased herbicide use on Roundup Ready crops is highly destructive to the natural environment. For example, Roundup kills milkweeds, which are the key food source for the iconic Monarch butterfly[20] and poses a threat to other important insects such as bees.[21] It is also damaging to soil, killing beneficial organisms that keep it healthy and productive[22] and making essential micronutrients unavailable to the plant.[23]

Without healthy soil, we cannot grow healthy plants.

Other types of GM plants, which have been engineered to produce their own insecticide (e.g. "Bt" cotton plants), have also been shown to harm beneficial insects including green lacewings[24], the *Daphnia magna* waterflea[25] and other aquatic insects,[26] and ladybugs (ladybirds).[27]

Resistance to the insecticides in these plants is also growing,[28] creating new varieties of resistant "superbugs" and requiring more applications of insecticides at different points in the growth cycle, for instance on the seed before it is planted.[29] In spite of this, new Bt varieties of corn and soy have been approved here and will soon be planted.

A threat to human health

GM ingredients are everywhere in our food chain. It is estimated that 70% of processed foods consumed in the US have been produced using GM ingredients. If products from animals fed GM feed are included, the percentage is significantly higher.

Research shows that Roundup Ready crops contain many times more glyphosate, and its toxic breakdown product AMPA, than normal crops.[30]

Traces of glyphosate have been found in the breastmilk and urine of American mothers, as well as in their drinking water.[31] The levels in breastmilk were worryingly high – around 1,600 times higher than what is allowable in European drinking water. Passed on to babies through breastmilk, or the water used to make formula, this could represent an unacceptable risk to infant health since glyphosate is a suspected hormone disrupter.[32] Recent studies suggest that this herbicide is also toxic to sperm.[33]

Likewise, traces of the Bt toxin have been found in the blood of mothers and their babies.[34]

GM foods were not subjected to human trials before being released into the food chain and the health impacts of having these substances circulating and accumulating in our bodies are not being studied by any government agency, nor by the companies that produce them.

Studies of animals fed GM foods and/or glyphosate, however, show worrying trends including damage to vital organs like the liver and kidneys, damage to gut tissues and gut flora, immune system disruption, reproductive abnormalities, and even tumors.[35]

These scientific studies point to potentially serious human health problems that could not have been anticipated when our country first embraced GMOs, and yet they continue to be ignored by those who should be protecting us. Instead our regulators rely on outdated studies and other information funded and supplied by biotech companies that, not surprisingly, dismiss all health concerns.

A denial of science

This spin of corporate science stands in stark contrast to the findings of independent scientists. In fact, in 2013, nearly 300 independent scientists from around the world issued a public warning that there was no scientific consensus about the safety of eating

gave "serious cause for concern."

It's not easy for independent scientists like these to speak out. Those who do have faced obstacles in publishing their results, been systematically vilified by pro-GMO scientists, been denied research funding, and in some cases have had their jobs and careers threatened.[37]

Control of the food supply

Through our experience we have come to understand that the genetic engineering of food has never really been about public good, or feeding the hungry, or supporting our farmers. Nor is it about consumer choice. Instead it is about private, corporate control of the food system.

This control extends into areas of life that deeply affect our day-to-day well-being, including food security, science, and democracy. It undermines the development of genuinely sustainable, environmentally friendly agriculture and prevents the creation of a transparent, healthy food supply for all.

Today in the US, from seed to plate, the production, distribution, marketing, safety testing, and consumption of food is controlled by a handful of companies, many of which have commercial interests in genetic engineering technology. They create the problems, and then sell us the so-called solutions. This is a closed cycle of profit generation that is unequalled in any other type of commerce.

We all need to eat, which is why every citizen should strive to understand these issues.

Time to speak out

Americans are reaping the detrimental impacts of this risky and unproven agricultural technology. EU countries should take note: there are no benefits from GM crops great enough to offset these impacts. Officials who continue to ignore this fact are guilty of a gross dereliction of duty.

We, the undersigned, are sharing our experience and what we have learned with you so that you don't make our mistakes.

We strongly urge you to resist the approval of genetically modified crops, to refuse to plant those crops that have been approved, to reject the import and/or sale of GM-containing animal feeds and foods intended for human consumption, and to speak out against the corporate influence over politics, regulation and science.

If the UK and the rest of Europe becomes the new market for genetically modified crops and food our own efforts to label and regulate GMOs will be all the more difficult, if not impossible. If our efforts fail, your attempts to keep GMOs out of Europe will also fail.

If we work together, however, we can revitalize our global food system, ensuring healthy soil, healthy fields, healthy food and healthy people.

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Neil Young signs the Letter from America 'for all living things'

July 1, 2016 by Staff Reporter

Rock legend Neil Young, currently touring Europe, is warning Europeans not to be fooled into thinking that GM crops are the answer to food security problems.

The singer, who is a co-founder of the US charity Farm Aid (https://www.farmaid.org%20), has joined a with other US celebrities, NGOs, farm groups and academics in signing the Letter from America, which highlights the damage genetically modified crops have done there and the risks they pose to health and the environment.

Says Young: *"I support the Letter from America because it speaks truth to power, showing the harm GMOs have caused American farms and farmers, our environment, our health and even science and democracy. Please take this seriously on behalf of all living things."*

The Letter in an ongoing project of the campaigning group Beyond GM (http://www.beyond-gm.org%20).

Young's endorsement comes during a sold-out 2-month European tour to promote his anti-corporate album *The Monsanto Years*, and brings the Letter to the attention of his millions of fans worldwide.

Beyond GM director Pat Thomas says: "Whatever emerges from Brexit, one thing which is clear: biotech and agricultural multinationals will continue push to extend their power over the farming and food system in the EU, in the UK and throughout the world."

Co-Director Lawrence Woodward adds: "As the reckless decision by the EU Commission to overrule all objections and relicense the hazardous chemical glyphosate shows, they and the UK government put corporate profits before the health of citizens and the environment. Only citizens taking action will redress this balance and we are proud to have Neil Young standing with on this."

A lifetime of activism

Throughout his career the Canadian rocker – who is amongst only a few who have been inducted into the Rock & Roll Hall of fame twice (https://en.wikipedia.org/wiki/List_of_Rock_and_Roll_Hall_of_Fame_inductees%20) – has used his music and fame to shine a light on political and environmental issues that are close to his heart.

He's protested the tar sands projects in Canada, initiated a boycott of Starbucks until they stop using GMO milk, and told Donald Trump to stop using his songs to promote his presidential campaign.

Young is currently in the middle of an EU-wide summer tour, promoting his album *The Monsanto Years* – an album with a strong anti-corporate theme featuring songs exploring global hunger, pesticides, GMOs, seeds and ecology. He is also promoting another new album *Earth* – a series of live recordings from his concerts in the US interwoven with sounds from the natural world.

A global village

As a way of underscoring his belief in the power of activism, Young has also brought a Global Village of activists with him on his EU tour, giving a diverse group of campaigners and NGOs an opportunity to reach out to the public with their message and materials.

He has also recently launched a website, GoEarth.org (http://goearth.org/%20), based around the groups involved in the Global Village, and intended as a resource for helping people 'go green'.

The Global Village, which has already toured the US with Young, comprises a series of themed tents focussing on GMOs, Earth Ecology, Energy & Climate, Global Justice, Future of Farming, and News You Can Trust.

The UK's Beyond GM was chosen to organise the GMO and Future of Farming tents (http://beyond-gm.org/beyond-gm-joins-neil-youngs-activist-village-in-the-ukeu/) in the Global Villages throughout the UK and the rest of the EU.

Young embarks on the second leg of his EU tour on July 3 in Helsinki.

(http://www.theletterfromamerica.org/translations/) are being distributed to the public in the Global Villages throughout Europe on the Neil Young 2016 tour.

(http://www.beyond-gm.org)
About this site:
The Letter From America is coordinated by Beyond GM. Endorsing this site is a vote for a safer, healthier more sustainable food system, for the health of our plants, animals and soil, for the independence and future security of our farmers. Thank you for speaking up. Read more... (http://www.theletterfromamerica.org/about)

http://foodtank.com/news/2015/12/tucson-as-north-americas-first-unesco-city-of-gastronomy

What Will a UNESCO City of Gastronomy Do for Tucson and for Other Cities?

21 December 2015

In December, Tucson, AZ Mayor Jonathan Rothschild announced that the city been designated the first UNESCO City of Gastronomy in the United States, becoming only the sixth metropolitan area in the country to join the United Nations' Creative Cities Network.
The effort to achieve this designation took a dozen of us two and half years to accomplish. But non-profits, business alliances, government offices, universities, farmers, food bank managers and chefs learned to row in the same direction toward a common goal. That goal is tangibly advancing a more just, inclusive, healthful, prosperous, and sustainable food system; one that will be more resilient in the face of climate changes because it fully engages the unique cultural and natural assets of our community.

With more than 200,000 commentaries and congratulatory messages on social media, websites, and by telephone within four days, it has become clear to us that many individuals and constituencies in our community are on board with this goal. Furthermore, food justice activists in many other cities are eager to see what they can learn from Tucson's success that can be applied to their own communities.
The irony, of course, is that Tucson's food system is not perfect; in other words, it, like many others, in the process of being fixed. Tucson is not even a major destination for foodies and gourmets like New Orleans, Charleston, Portland, Santa Fe, Boston, or New York City. But that, in fact, is not what UNESCO is after, nor is it Tucson's ambition to behave as a Santa Fe wanna-be. Instead, we want to demonstrate that even within a place that has suffered for decades from grinding poverty, water scarcity, and food insecurity, as well as high levels of diabetes and obesity, food systems innovations are now positively changing the health status of our citizens and the viability of our livelihoods and public institutions for the better.

Tucson prides itself on being the metropolis in North America with the oldest continuous history of agriculture within its city limits: 4,100 year old corn remains and 3,500 year old irrigation ditches can be found just a few miles from its downtown. While such an extraordinary cultural heritage of cultivating and processing native foods certainly matters to UNESCO, the City of Gastronomy honor came on the basis the city's capacity for entrepreneurial innovations grounded in social and ecological values unique to this place.

Tucson is home to one of the oldest nonprofit community seed banks in North America—Native Seeds/SEARCH—that over a quarter century, has put tens of thousands of packets of desert-adapted seeds in the hands of Native American, Hispanic & immigrant gardeners, farmers and schoolchildren in its foodshed. More recently, the Pima County Public Library has become a leader in the seed library movement, offering free seeds to home gardeners and schools through all of its seventeen branches in Tucson and its surrounding farm towns. Tucson not only hosted the first-ever convening of the nation's heirloom seed activists at its historic Seed Banks Serving People forum in 1983; it again hosted seed activists at the first International Seed Library Forum in May of 2015. Today, nearly every farmers market in Tucson allows low-income residents to use SNAP benefits to purchase seeds, seedlings, and fruit tree transplants from local vendors. Many in the community simply sees access to place-based seeds as a fundamental element of the human right to eat in a healthful and culturally-appropriate manner.

The same kinds of innovations have occurred in Tucson's use of water to grow food. It was one of the first cities in the country to fully embrace low-water requiring edible landscaping and permaculture plant guilds in public spaces and private yards. When rain barrels for rooftop runoff

collection became commercial available, tens of thousands of Tucson's integrated them into their management of home orchards and vegetable gardens. Then, local water harvesting wizard Brad Lancaster convinced the city government to cut open the curbs of paved streets so that storm runoff from roads could re-green walkways and yards, thereby reducing the urban heat island effect.
When elderly urban residents who are housebound are unable to pick the citrus, pomegranates, and dates in their own yards, immigrant women affiliated with the nonprofit Iskashataa Refugee Network will come to glean them. Well over 100,000 pounds of edible fruit are annually being rescued from backyards and boulevard medians by these newcomers to Tucson, who use traditional methods from back home to process them into vinegars, syrups and healthful snacks. When the University of Arizona anthropologists first pioneered food waste reduction in the 1980s through its internationally-famous Garbage Project, it became painfully obvious how much food American households let spoil once they bring it home from markets and stores. Today, dozens of university students who call themselves the "Compost Cats" not only collect all food waste on campus, but also do so from dozens of restaurants and cafes nearby, converting all of it into compost for gardens and farms in association with the Native American farm known as San Xavier Co-op.

Tucson area food banks are also national leaders in rescuing and redistributing produce from border brokers, in providing fresh locally-grown foods not just canned goods to low-income residents, and creating farm incubators where underemployed residents can grow food for themselves and for sale at farmers markets. Some of this food also ends up being used by Tucson's astonishing number of food trucks, taco carts and mobile catering services. In fact, Tucson is tied with Los Angeles for having the greatest density of food trucks among major American cities.

Unlike San Francisco or Boston, most of these innovations have not been accomplished with philanthropic or government or conventional financing, but through entrepreneurial approaches that draw upon alternative financing. Arizona is top-rated among all states by the Kaufman Institute for Entrepreneurship for the number of independently-owned start-up business it has per ten thousand residents. In particular, Tucson ranks near the top of all cities surveyed in its number of restaurant and food truck start-ups, privately-funded community kitchens, community garden growers selling into farmers markets, and artisanal producers of value-added heritage foods.

And yet, Tucson remains plagued by the presence of seven U.S. Department of Agriculture identified food deserts within ten miles of its hundred-year-old land grant university, by food insecurity being suffered by a third of its residents and by soaring rates of childhood diabetes and obesity. That's why the Tucson Unified School District has partnered with the Community Food Bank of Southern Arizona and the University of Arizona to bring vegetable gardens onto every school campus and locally-produced fresh foods into every school cafeteria. While such goals are not accomplished overnight, the Mayor recently appointed a Commission on Food Security, Heritage and Economy to break down the barriers to achieving such objectives. Rather than merely using its new honor from UNESCO to attract culinary tourists, Tucson has rededicated itself to taking better care of its many residents that have formerly been marginalized by the globalized, industrialized food system. Its first public event as a UNESCO City of Gastronomy will be hosting a two day symposium called "Food Justice, Faith, and Climate Change" February 11-12th, 2016 at the new Center for Regional Food Studies on the University of Arizona campus (to pre-register and see full agenda see http://foodstudies.arizona.edu/). It will bring together advocates for farmworkers and food service workers, faith-based communities, food and climate justice activists, social scientists, and government agencies to forge broader alliances to vanish hunger and food insecurity in the face of a hotter, drier, and more water-scarce climate.

For further information, contact Gary at gpnabhan@email.artizona.edu. For more information: www.tucsonaz.gov/gastronomy
Gary Paul Nabhan, Ph.D., is a writer, lecturer, and world-renown conservation scientist.

Gary Paul Nabhan is an internationally-celebrated nature writer, food and farming activist, and proponent of conserving the links between biodiversity and cultural diversity. He has been been honored as a pioneer and creative force in the "local food movement" and seed saving community by Utne Reader, Mother Earth News, New York Times, Bioneers and Time magazine. As the W.K. Kellogg Endowed Chair in Sustainable Food Systems at the University of Arizona Southwest Center, he works with students, faculty and non-profits to build a more just, nutritious, sustainable and climate-resilient foodshed spanning the U.S./Mexico border. He was among the earliest researchers to promote the use of native foods in preventing diabetes, especially in his role as a co-founder and researcher with Native Seeds/SEARCH. Gary is also personally engaged as an orchard-keeper, wild foods forager and pollinator habitat restorationist working from his small farm in Patagonia, Arizona near the Mexican border. He has helped forge "the radical center" for collaborative conservation among farmers, ranchers, indigenous peoples and environmentalists in the West.
He played key roles in establishing the Ironwood Forest National Monument, community-based seed banks, land reserves for conserving wild crop relatives, and restored habitats for migratory pollinators throughout the West.
Agricultural historian Peter Hatch of Monticello has called Nabhan "the lyrical scholar of genetic diversity." As an Arab-American essayist and poet, he is author or editor of twenty-four books, some of which have been translated into Arabic, Spanish, Italian, French, Croation, Korean, Chinese and Japanese. For his creative writing and its influence on community-based conservation, he has been honored with a MacArthur "genius" award, a Lannan Literary Fellowship, a Southwest Book Award, the John Burroughs Medal for nature writing, the Vavilov Medal, and several honorary degrees and lifetime achievement awards.
He works most of the year as a research scientist at Tumamoc Hill and the Southwest Center of the University of Arizona, but he is also engaged with several food justice and farming alliances, including Sabores Sin Fronteras, Santa Cruz Valley Heritage Alliance, Wild Farm Alliance, Renewing America's Food Traditions, and the Borderlands Habitat Restoration Initiative. Nabhan is humbled and honored to serve as a professed Ecumenical Franciscan brother, helping the Franciscan Action Network in shaping ethical responses to environmental injustice, to immigration issues and to climate change.

Tucson Designated UNESCO World City of Gastronomy
Tucson becomes the first city in the United States to be recognized as a UNESCO World City of Gastronomy.
By Megan Kimble

We've known it—those of us who eat here have tasted it. We've felt it in the soil under our fingernails. We've seen it in the magenta stain of prickly pear. We've heard it in the hammer mill grinding sweet speckled mesquite; smelled it in the exhale of steam from a crowded pot of tamales.

Tucson has always been a city of gastronomy. Today, it was designated a World City of Gastronomy by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), becoming the first city in the United States to receive such a designation. The designation adds Tucson to UNESCO's Creative Cities Network, created in 2004 to promote cooperation among cities that have identified creativity as a strategic factor for sustainable urban development. Tucson joins 46 other cities added to the Creative Cities Network today. The 116 cities in this network are intended to work together toward a common objective: placing creativity and cultural industries at the heart of their development plans at the local level and cooperating actively at the international level. "The Tucson Basin deserves this honor not only for having some of the oldest continually farmed landscapes in North America, but also for emerging as a global hotbed for ideas on relocalizing food economies and growing food in a hotter, drier climate," says Gary Paul Nabhan, an ethnobotanist and professor at the University of Arizona's Southwest Center. "From food banks, seed libraries, and farmers' markets, to community gardens, community kitchens, and literary luminaries writing on food and culture, we are serving as a nursery grounds for new innovations, not merely for preserving our food heritage." Nabhan helped initiate Tucson's application to the Creative Cities network, a joint effort of the University of Arizona and the City of Tucson, with support from many businesses and nonprofits, including *Edible Baja Arizona*.

Across 32 countries, UNESCO has designated Cities of Literature; Cities of Crafts and Folk Arts; Cities of Design; Music; Media Arts; and Film. There are eight Cities of Gastronomy worldwide—Popayán, Colombia; Chengdu and Shunde, China; Östersund, Sweden; Tsuruoka, Japan; Jeonju, South Korea; Florianopolis, Brazil; and Zahle, Lebanon. In the United States, Tucson joins three existing Creative Cities: Iowa City—designated a City of Literature in 2008—and Santa Fe, New Mexico, and Paducah, Kentucky, both Cities of Crafts and Folk Arts. Two additional U.S. cities joined the network today: Austin, for Media Arts, and Detroit, for Design.
What makes Tucson worthy? Like a Nobel Prize in Literature, awarded for an author's body of work rather than a single publication, there is no single reason for Tucson to earn the accolade.

Tucson's Mission Garden is a re-creation of the gardens once built to feed the people associated with the Mission; today, heritage crops grow on one of the oldest continually farmed plots of land in North America.

There is what came before: Tucson has the longest agricultural history of any city in North America, extending back more than 4,000 years. Three thousand years after the first farmers of the Sonoran Desert settled in the Santa Cruz River valley, missionary

Father Eusebio Francisco Kino traveled on horseback from Mexico to an O'odham village called Schookshon—meaning "below the black hill"—and found a community of 750 people thriving on cactus and mesquite, tepary beans and sunflowers, corn and squash. In 2000, archeologists dug below the surface of a decidedly modern city and "found evidence of habitation preserved in every layer, going back 4,000 years," says Jonathan Mabry, the historic preservation officer for the City of Tucson, who researched and wrote much of the application to UNESCO.
But it is not just our past—an uninterrupted lineage of food—that warrants attention. "With this designation, Tucson can affirm its place as an incubator for innovations in borderland cuisines," says Nabhan.
And it's just not just about gastronomy, says Mabry. "It's about using our unique food culture as a means for economic development."

Consider the work of the 30-year-old conservation nonprofit Native Seeds/SEARCH—which Nabhan co-founded—and their extensive collection of desert adapted seeds, some of which exist nowhere else in the world. Think about the seeds planted in soil by tiny fingers in the dozens of school gardens that have sprouted around the city—kids who are now eating food grown in southern Arizona, thanks to work done by the Community Food Bank of Southern Arizona to connect local producers with institutional markets, offering not only increased economic stability for our region's farmers and ranchers, but also greater access to local, healthy food throughout our community.

Consider our fields of White Sonora wheat, pastures of rugged *criollo* cattle, and orchards heavy with Kino heritage fruit trees. More heritage foods listed on the Slow Food International Ark of Taste are grown within 100 miles of Tucson than any other city in North America. Volunteers at Mission Garden are collecting many of those foods into a garden planted on a plot of land that's been producing food for 4,000 years.

Down the street from Mission Garden, in Tucson's newly thriving downtown, are dozens of chefs—two James Beard award winners—preparing many of these heritage foods in distinctly modern ways, from White Sonora wheat biscotti at Pizzeria Bianco to cholla bud escabeche at Janos Wilder's Downtown Kitchen + Cocktails.
"This designation puts Tucson and its southern Arizona foodshed on the global map as the capital of Southwestern borderlands cuisine and a center of food system innovation," says Mabry.

Indeed, much of the excitement surrounding this designation is outward facing. It offers Tucson the opportunity to be known internationally as a destination for culinary tourism. It facilitates collaboration and exchange with other members of the Creative Cities Network. Joining UNESCO's Creative Cities Network "presents an opportunity for Tucson's chefs, farmers, and ranchers, as well as our businesses, academic institutions, and nonprofits, to be represented on the world stage," says Tucson Mayor Jonathan Rothschild. "I'd like our tourism bureau to be able to tout this designation as yet another great reason to visit Tucson."

But the designation also offers an opportunity for Tucson to look inward—to galvanize our community to action in addressing many of the challenges that still exist in our local food system. The designation can help direct public and private funds to support innovation in the food system, from small business incubators to nonprofit foundations.

It can serve to focus and reframe efforts to alleviate poverty and food insecurity within our community. It can catalyze the development of a regional food brand to increase consumer awareness of locally produced foods. Mayor Rothschild recently established a City Commission on Food Security, Heritage, and Economy to address issues relating to food security, food heritage, and the food economy. "I know the participants… especially representatives from the University of Arizona, are excited at the prospect of working within UNESCO's Creative Cities framework," says Mayor Rothschild.
"Like any other honor or designation, it's what we do with the City of Gastronomy award that matters," says Nabhan. "If we want to use it to reduce food insecurity, obesity, and diabetes, let's do it. If we want to use it to jump-start new food micro-enterprises, let's go for it. What matters to me most about this designation is that it built a collaboration among the city and county governments, the University of Arizona, our grassroots alliance, nonprofits, and businesses—one that will now endure."

In other words: It's up us to decide how we will leverage our resources to fulfill our designation as a UNESCO World City of Gastronomy—one that will now endure.
Megan Kimble is the managing editor of Edible Baja Arizona.

http://ediblebajaarizona.com/tucson-designated-unesco-world-city-of-gastronomy

Urban Agriculture

The City of Tucson is in a position to promote healthy eating and active living, while also making Tucson a more attractive, livable place. "Urban agriculture" has emerged in cities across the United States as a way to increase access to affordable food and provide more green and active space for residents. "Agriculture" has traditionally been associated with "rural" areas; however, the increase in attention to locally grown food has led to many cities updating urban policies involving land and water use, waste removal, development standards, and human service programs to account for and improve a changing urban "food system."

There are several ways in which the City of Tucson can play a direct role in the future of urban agriculture within its boundaries. One is through land use decisions and the other is through land provision. Through its Sustainable Land Use Code Integration Project in 2012, the City began addressing barriers faced by individuals and groups to starting their own gardens and selling locally produced food. As a first step, the Project included recommendations supportive of urban agriculture, such as allowing the onsite sale of food grown in community or backyard gardens in residential zones and allowing community gardens to be counted toward open space requirements for new development.[1]

In keeping with a national trend of repurposing vacant and underutilized public lands for urban agriculture, the City has made available some public land for community gardens. For example, in 2012 the City oversaw the construction of the Blue Moon Community Garden on an underutilized parking lot adjacent to a public housing complex in an area of the city that was identified as a food desert—that is, an area with limited access to fresh, affordable food. Additionally, some public schools and churches within the City have located community gardens on their sites both as an educational opportunity and to provide fresh food for the community.

Urban agriculture takes a number of forms, including home and backyard gardens, community gardens, and small-scale farms and commercial gardens producing a vast range of edible produce and decorative plants. These spaces may also involve the raising of animals for purposes of personal consumption and/or sale or donation. When done at an

The Blue Moon Community Garden, an accessible public garden constructed on City property to increase availability of fresh produce.

[1]City of Tucson Sustainable Land Use Code Integration Project: Phase 1 Diagnostic Report, City of Tucson Planning and Development Services, 2011.

appropriate scale, raising animals in urban settings can provide many benefits including fresh eggs, milk, and honey.

Home and backyard gardening are widespread and the number of community gardens in Tucson has more than doubled in the past five years; in 2012 there were 43 community gardens available to the public. These gardens are communal spaces where individuals or groups rent garden plots for the purpose of growing edible and decorative plants. Additionally, there are many school gardens. According to the Centers for Disease Control and Prevention, community gardens provide mental and physical health benefits beyond access to healthy fresh fruits and vegetables, including opportunities to:

- Engage in physical activity, skill building, and creating green space
- Beautify vacant lots
- Revive and beautify public parks
- Decrease violence in some neighborhoods and improve social wellbeing through strengthening social connections
- Revitalize communities in industrialized areas[2]

Access to affordable healthy food and recreational facilities is important to public health. A study conducted by the University of Arizona found that 81 percent of Pima County residents have access to healthy foods and recreational facilities compared to just 72 percent statewide, although Tucson

A "food system" is a collaborative effort to integrate agricultural production with food distribution to enhance the economic, environmental, and social well-being of a particular place–that is, a neighborhood, city, county, or region.

Middle school students plant a raised bed in the community garden at Doolen Global Academy.

[2]"Community Gardens," Healthy Places, Centers for Disease Control and Prevention, 2010. (Retrieved from http://www.cdc.gov/healthyplaces/healthyfood/community.htm.)

and Pima County still perform below the national benchmark of 92 percent for this category.[3] Studies have shown a 10x10 meter garden plot with favorable growing conditions can provide most of a household's total yearly vegetable needs at a fraction of the cost of produce purchased from retail food outlets, at the same time providing opportunities for physical activity and positive social interactions with fellow gardeners.[4] In addition to these sorts of individual physical and mental health benefits, urban agriculture provides benefits to the built and natural environments.

Open vegetated spaces, such as community gardens and small-scale urban farms, reduce the impact of the "urban heat island effect." This type of green space often replaces unused areas of pavement, which absorb sunlight throughout the day and radiate heat in the evening. Gardens also help water evaporate during the day, further lowering the temperatures around them.[5] Vegetated spaces also improve stormwater and watershed management by providing more pervious surfaces.

A more localized food system would increase Tucson's resiliency to emergency food shortages, and would reduce the environmental impacts associated with transporting food long distances. Such a system would also support local businesses involved in growing, processing, and distributing food, and make the community more self-sufficient in the event of an emergency that prevents food from being imported.

The following policies provide direction that would increase the access of affordable, healthy food, while providing the many other benefits of urban agriculture.

Children learning about gardening at the Tucson Botanical Gardens.

[3]Pima County Health Needs Assessment, University of Arizona Mel and Enid Zuckerman College of Public Health, prepared on behalf of Carondelet Health Network, Tucson Medical Center, and the University of Arizona Medical Center, March 2012.

[4]"Health Benefits of Urban Agriculture," A.C. Bellow, K. Brown, and J. Smit, Community Food Security Coalition's North American Initiative on Urban Agriculture, 2004.

[5]"As Temps Rise, Cities Combat 'Heat Island' Effect, R. Harris, Wisconsin Public Radio News, 2012

POLICIES

Urban Agriculture (AG)

AG1 **Reduce barriers to food production and to food distribution, including home and community gardens, and facilitate access to new markets for small-scale farmers and gardeners.**

AG2 **Adopt zoning and land use regulations that promote and facilitate the safe, equitable growth and distribution of locally produced food.**

AG3 **Facilitate community food security by fostering an equitable, healthy local and regional food system that is environmentally and economically sustainable and accessible to all.**

AG4 **Collaborate with key partners to facilitate new opportunities for urban-scale gardens, farms, gleaning, and distribution systems.**

Other Related Policies

ELEMENT	POLICY #	PAGE #
Housing	H1	3.11
Public Safety	PS5, PS9	3.15
Parks & Recreation	PR6, PR9	3.20
Arts & Culture	AC3, AC9	3.27
Public Health	PH1, PH2	3.31
Urban Agriculture		**3.35**
Education	E2, E6, E7	3.40
Governance & Participation	—	3.46
Jobs & Workforce Development	JW1, JW7	3.56
Business Climate	BC3, BC4	3.66
Regional & Global Positioning	—	3.70
Tourism & Quality of Life	TQ7	3.76
Energy & Climate Readiness	EC3, EC6, EC7	3.86
Water Resources	WR2, WR3, WR5	3.91
Green Infrastructure	GI2	3.97
Environmental Quality	EQ1	3.103
Historic Preservation	—	3.113
Public Infrastructure, Facilities, & Cost of Development	—	3.121
Redevelopment & Revitalization	RR3, RR5, RR6	3.128
Land Use, Transportation, & Urban Design	LT1, LT4, LT10, LT27	3.148