FOOD

an atlas

FOOD : *an atlas*

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contents

I am not a glutton — I am an explorer of food.
—Erma Bombeck

FOOD: There is nothing so simple nor anything so complicated. Food is the neighborhood blackberry bramble foraged in midsummer. Food is the rice grain that finds its way to the table from halfway around the world.

The agricultural food base has become the first link in a chain of industries that deliver the fuel needed to energize the human body and mind. From it a vast complex of interrelated businesses—the global food industry—is focused on the production, distribution, preparation, and consumption of comestibles. There is almost no segment of the economy untouched by this network. And there is certainly no human unaffected by it. Despite the industrialization of food, it remains a personal and intimate human endeavor. We find community and identity in the food we eat. James Beard, American chef and early food writer, said it best: 'Food is our common ground, a universal experience.'

an atlas is a collection of maps with a common purpose—either to present a holistic picture of place through repeating geography that maps various phenomena of the atlas's subject area, or to examine a theme across a broad geography, striving to edify the reader on a particular subject. *Food: An Atlas* is of the latter. It illuminates a theme by its examination of food phenomena over a wide range of geographical scales, locations, and research disciplines.

This atlas fuses traditional cartography, poster art, infographics, and journalistic text blocking to render the map as a narrative device. Maps are a superb medium for illuminating complicated issues, and food is an exciting theme to explore. While food is an important aspect of our lives, few have a comprehensive understanding

guerrilla cartography

Books, paintings, dances, plays. The process of creating them rarely becomes a part of them. As art forms go, photography comes the closest to documenting itself by the nature of its recursive habit of "capturing reality."

This atlas, too, has a reference unto itself, its creation being a part of what is. In its pages are innumerable insights into the human relationship to food, and that exactly fulfills the atlas's intent. But there is another story in this atlas that must be told—the story of how it came to be. Why should the story of a little collection of maps be so important to tell? Because the story describes a new paradigm for collaborative knowledge-caching and sharing, a new way to make an atlas.

I have learned over many years as a cartographer that when working with data, especially spatial and temporal data, time is critical in the dissemination of information. I wanted to find a way to make an atlas in a few short months, so the food atlas would be an experiment in guerrilla cartography and guerrilla publishing. Guerrilla cartography because an open call for maps was distributed and shared through a network of people who care about geography, or food, or both, and cartographers and researchers would decide, by their submissions, what would appear in the atlas. And guerrilla publishing because we would not pitch our atlas or seek approval from a publishing house; instead we would publish our atlas by a consortium of supporters using a crowd-funding platform—the people are making this atlas, literally giving it form. We would further buck the commercial publishing model by pledging to give a portion of the proceeds from the sale of the atlas's first printing to an organization working for food justice somewhere in the world.

The crowd-sourcing model requires collaboration, but even if I could gather the maps, I could not, in less than six months, organize them into an atlas by myself so I set about recruiting volunteers to help me create the food atlas. I first called on Molly Roy, a former student who had helped me with the final editing of Mission Possible: A Neighborhood Atlas, *and she happily joined the project as my co-editor (someone to share the glory and the blame). Acknowledging that it was an ambitious plan to make this atlas in a few short months, we wrote and sent out a call for maps to a cobbled list of 250 university cartography*

of current food systems. By exploring and mapping the world of food, we gain a better understanding of the role food plays in our lives, in our communities, and upon our planet.

In traditional atlases, maps are uniformly designed and adhere to specific conventions of data representation and symbolization. Because of its crowd-sourced nature, *Food: An Atlas* breaks from this practice. Here, each map expresses the aesthetic sensibilities and choices made by the individual researchers and cartographers. In this way, the atlas is more like a curated exhibit. Each map is intended to tell its own story, but together the maps imagine a collective narrative, one that the reader is invited to enter on any page.

The maps in this atlas represent a cross-section of issues that concern modern geographers and food researchers. Submissions revealed a wide scope of prevailing food issues, and in this way the atlas organized itself into chapters on production, distribution, security, and identity. The atlas explores themes ranging from agriculture and land use to food processing and distribution, from issues of food security and health to concepts about identity, cuisine, and ideas about our relationships with food—mapping food in its myriad contexts. It is telling that the largest number of maps are concerned with issues of adequate and healthful access to food.

Within each chapter, maps are organized by scale, from small to large. Each begins with a view of the world and moves through increasingly larger scales, highlighting the food phenomena of continents, countries, provinces and regions, to the city, the neighborhood, and the dinner plate. From the Basque Country to Okinawa, Copenhagen to Buenos Aires—the maps depict a diversity of locations.

As a survey of the geography of food, the maps range across the scope of food themes, and the geographies are diffuse. Each map could form the basis for an atlas of its own. A map about a nonprofit working on urban agriculture in Oakland, California, spurs us to think about the possibility of other urban agriculture projects in other cities. It also raises questions about what else is going on in Oakland's foodscape. And while the atlas presents other maps about urban agriculture as well as other maps of Oakland's food environment, we can't begin to fully elucidate the story of urban agriculture in the world—or even in Oakland.

The scholarship and artistry invested in these maps is impressive. They are informative and thought provoking, they are beautiful, and they give shape to the world of food. But in a mere seventy maps it is impossible to map every commodity, distribution network, cuisine, or food identity. This atlas cannot tell every food story. But it can tell more than seventy stories if you let the maps inform each other as well as your own curiosity.

This atlas will provoke more questions than the answers it provides, and that's fantastic, because what we are charged to do as scholars of food is to get people to think about these issues, to foster conversations, and to promote further investigation about our world through the lens of food. We hope that these conversations and investigations generate more food maps, especially dealing with the geographies (South America and, especially, Asia and Africa) that are not well represented here, and subjects that are absent or under represented. What can we teach each other—through maps—about seeds, pollinators, fisheries, food histories, food workers... with so many subjects to be explored a list risks becoming a litany. It is enough to say that there are innumerable possibilities. Only the community of guerrilla cartographers can decide what will appear in future volumes of *Food: An Atlas.*

or GIS labs and food policy networks. From there, the call circulated among personal networks and blogs. Responses came pouring in, and almost instantly a community of guerrilla cartographers was born.

Many maps were created by groups already working together at a university or collective, and some were made by people who met only as we paired willing researchers and cartographers. In this age of connectivity, some collaborating teams were separated by international boundaries, even oceans, while others worked across town and still never met face-to-face.

The guerrilla cartographers said yes to Food: An Atlas *with their submissions. The next step was to find out if the crowd would help build the atlas and then fund a guerrilla publishing project.*

With only an opportunity to work collaboratively with our loose band of guerrilla cartographers to offer, we reached out to our local networks to help with organization and compilation of the atlas. Kaitlin Jaffe answered the call to manage book production, Querido Galdo said yes to design, and Russell Wagner agreed to handle layout.

With content pouring in, Molly and I realized that we needed help expert help—in editing and organizing the maps into a narrative. We set about to organize an editorial panel and found them in publisher Russell Wagner (doing double duty), data visualization specialist Cynthia King, author Temra Costa, and geographer and writer Joshua Jelly-Schapiro.

Emily Busch and MC Abbott answered the call to manage our Kickstarter crowd-funding platform, but talent, organization, and good intentions were not by themselves going to guarantee a successful campaign. The campaign had to be compelling, and deciding we needed a well-made video introduction, we reached out to Elliot Waring.

To attract larger funders, we expanded our guerrilla community to include book artist Ava Sakaya Rosen, who agreed to hand-build a deluxe edition of the atlas. Then cartographer Nica Powell agreed to take a busload of supporters on a tour based on her Taco Trucks of East Oakland *map. Bocanova (a locally-sourced restaurant in Oakland) donated a chef's dinner and we offered up a dinner party with our core team at my home. These premium rewards garnered us more financial backing and enlarged the community of guerrilla publishers.*

We became proactive, almost aggressive, in seeking exposure. We reached out to food bloggers and journalists—everyone we could think of. We also had a built in network of our collaborators, and each of them had networks to exploit—and exploit we did!

The campaign ended on Tuesday, October 23, with 747 people backing the project. Our collaborators include well more than one hundred people across the globe: volunteer researchers and cartographers who created the maps, the design and production team who compiled the atlas, the editorial panel who critically reviewed the maps, and the Kickstarter team who managed the crowd-funding campaign, all working in the spirit of collaboration and community knowledge-caching.

The artifact that you hold in your hands—an atlas on the geography of food—is the tangible result of all these people's efforts. But this project has created more than an atlas; it has created a community of guerrilla cartographers—one that you will surely hear from again.

— Darin Jensen, December 2012

FOOD : *production*

Eating is an agricultural act.

— Wendell Berry

In the time since the first farmers settled in the Fertile Crescent, our relationship to food and the natural world has changed dramatically. We have developed ever-more sophisticated agricultural systems now capable of producing vast amounts of food. In fact, we've become so efficient at doing so that by 1996 humans were producing enough food to provide every man, woman, and child on Earth with over 2500 calories per day—some 400 calories more than the average adult requires for healthful nourishment.[1]

In today's world, small numbers of people—some indigenous tribes, hunters and fisherman—forage or kill most of what they eat. But the majority of the world's seven billion inhabitants are now mostly dependent on large-scale food production systems.[2] This dependency has impacted natural systems and reduced the diversity of what we eat. Of 10,000 plant varieties used as human food since the origin of food production, today only around 150 constitute the green part of the world's diet.[3]

This chapter explores food production at scales from the global to the (hyper-) local, from the global expansion of agricultural land over time to rooftop-farming potential in modern cities, with maps of foodstuff cultivation at regional scales in between. Together these maps illustrate the relationship of food production to place, resources, and space.

Harvesting the World

Bill Rankin

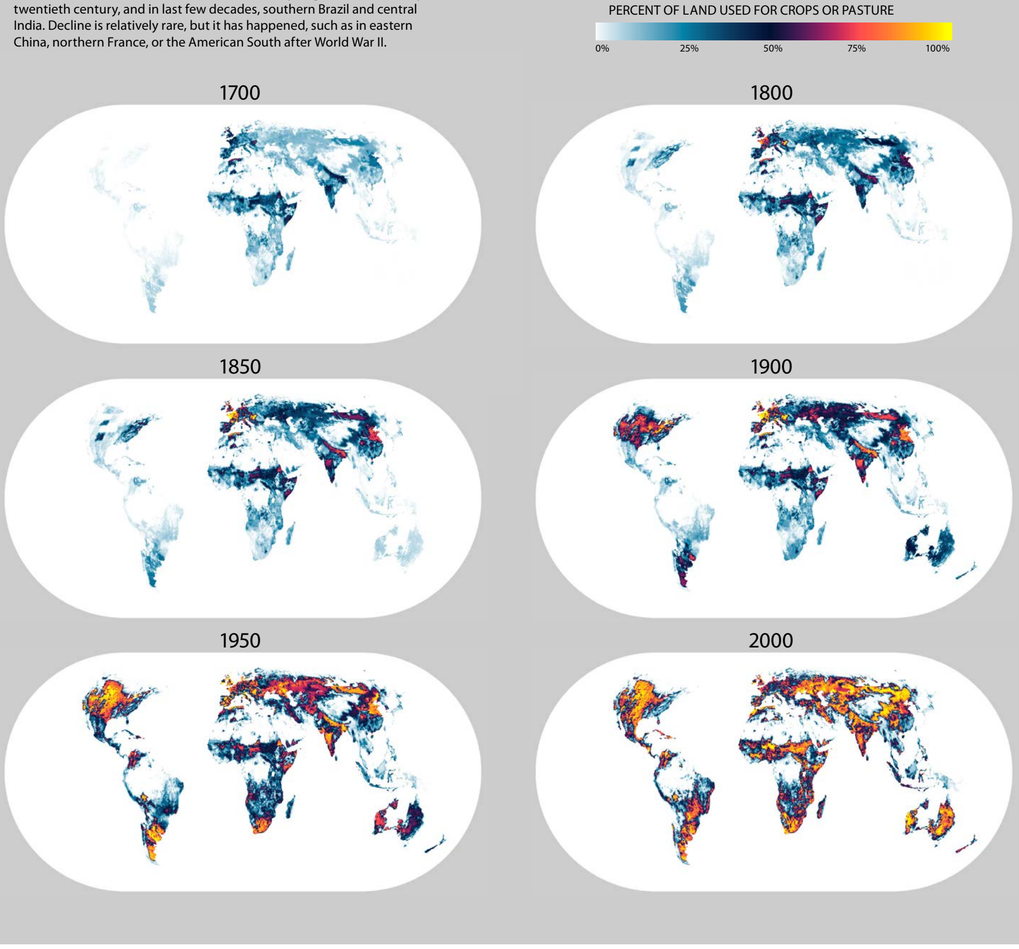
HARVESTING THE WORLD

Bill Rankin

with data from Navin Ramankutty and Jonathan Foley, 2011 [beta].

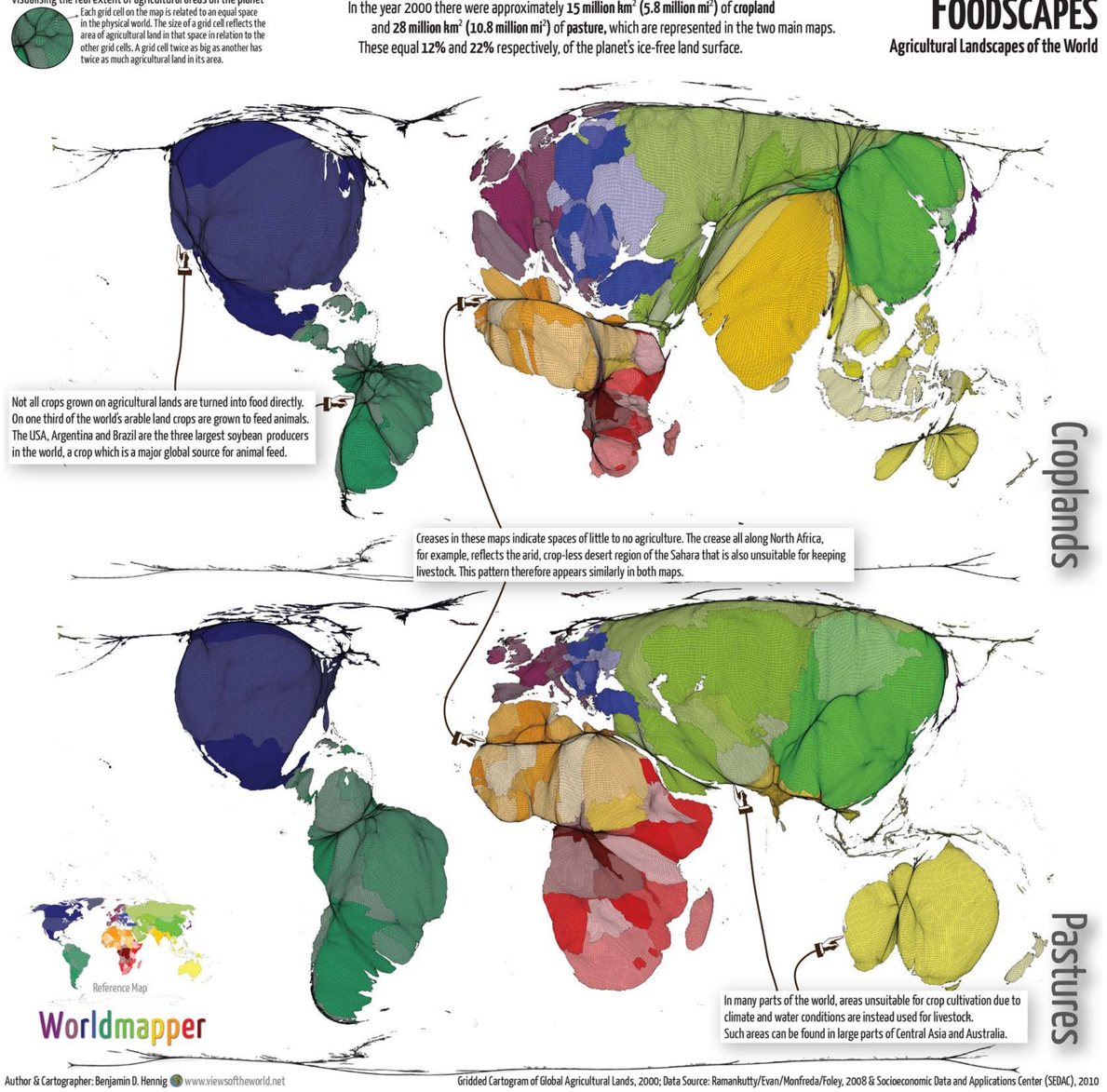
The spread of agriculture over the last three hundred years has been a dance of intensification and expansion. Nearly every area of the world has seen agriculture become more intensive and locally dense, even in areas where it has long been established. Since 1850, this steady state of intensification has been punctuated by several episodes of rapid expansion into previously untapped areas: the Great Plains of the United States and Canada in the late nineteenth century, Argentina in the early twentieth century, and in last few decades, southern Brazil and central India. Decline is relatively rare, but it has happened, such as in eastern China, northern France, or the American South after World War II.

There are two important lessons here. First, the transportation revolution that began in the mid-nineteenth century is far from over; vast stretches of Africa, South America, and Southeast Asia could still be opened up to agricultural uses. Preserving these rainforest areas will require further intensification elsewhere. Second, with many agricultural areas at close to 100 percent exploitation, it would seem that much of the logic of density and densification usually applied to cities could apply equally well to agricultural areas. A simple divide between "urban" and "rural" is perhaps less instructive than an analysis of different kinds of intensifications.



Foodscapes: Agricultural Landscapes of the World

Benjamin D Hennig



Aroids: The World's Oldest Food Crop

Karin Vaneker & Erwin Slaats

AROIDS: THE WORLD'S OLDEST FOOD CROP

AROIDS (L. *ARACEAE)*

Aroids, or taro, is a common name for plants belonging to the Araceae family of plants. The aroid plant family comprises of more than 120 genera and 3750 species of which many are used as food, medicine, animal fodder, orna- mental plants and cut flowers. The main centres of origin and diversity of aroids are tropical Asia and tropical America.

ORIGIN

Aroids are the world's oldest food crops, and were the most widely distributed starchy food plants during the 16th and 19th century. Cultivation already occurred when rice and wheat were just weeds. Archaeological evidence from the Solomon Islands suggests that taro was already in use around 28,700 years ago.

CULTIVATION

Aroids are a staple crop for several hundred million small farmers throughout the tropical world. It is roughly estimated that around 500 million people are involved in the cultivation, consumption and trade of aroids. Today, taro and tannia are widely grown in tropical and subtropical temperate areas throughout the world.

CONSUMPTION

Aroids are almost exclusively eaten by the populations of Asia, Africa, Latin America, the Caribbean and immigrant communities from these areas that are living in dense urban areas in the Western Hemisphere. Common and ancient preparation techniques are baking, roasting, boiling, drying and fermentation.

NUTRITIONAL VALUE

All plant parts of aroids are edible, and have good nutritional qualities. The roots and tubers are versatile and rich in carbohydrates, vitamins, minerals, as well as being hypoallergenic. The leaves, stems and petioles are frequently eaten as a green vegetable and represent an important source of vitamins, especially folic acid.

CULTURAL & CULINARY HERITAGE

Aroids and aroid dishes, are also part of national, local, culinary and cultural heritage in numerous communities in and from Africa, Asia, Latin America and Polynesia. In many cultures aroids are sacred plants with high prestige and carry a deeply symbolic meaning and strong cultural value, intrinsic to cultural identity.

CULTIVATED AROIDS

Aroids are among the six most important roots and tuber crops, and rank fourteenth among staple vegetable crops.
The five most important cultivated aroids, used as food are:

- **Elephant ear (L. *Alocasia*)**
- **Elephant foot yam (L. *Amorphophallus*)**
- **Swamp taro (L. *Cyrtosperma*)**
- **Taro (L. *Colocasia*)**
- **Tannia (L. *Xanthosoma*)**

Solomon Islands, Taro

Melanesia, Taro

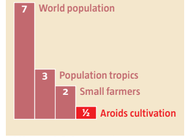
Costa Rica, Tannia

Micronesia, Swamp Taro

Solomon Islands, Taro

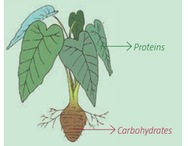
AROIDS & THE WORLD

(numbers x billion)



USCB 2012 & FAO 2010 estimates

MACRONUTRIENTS



Africa, Fufu

Hawaii, Poi

Surinam, Pom

GLOBAL CULTIVATION & CONSUMPTION

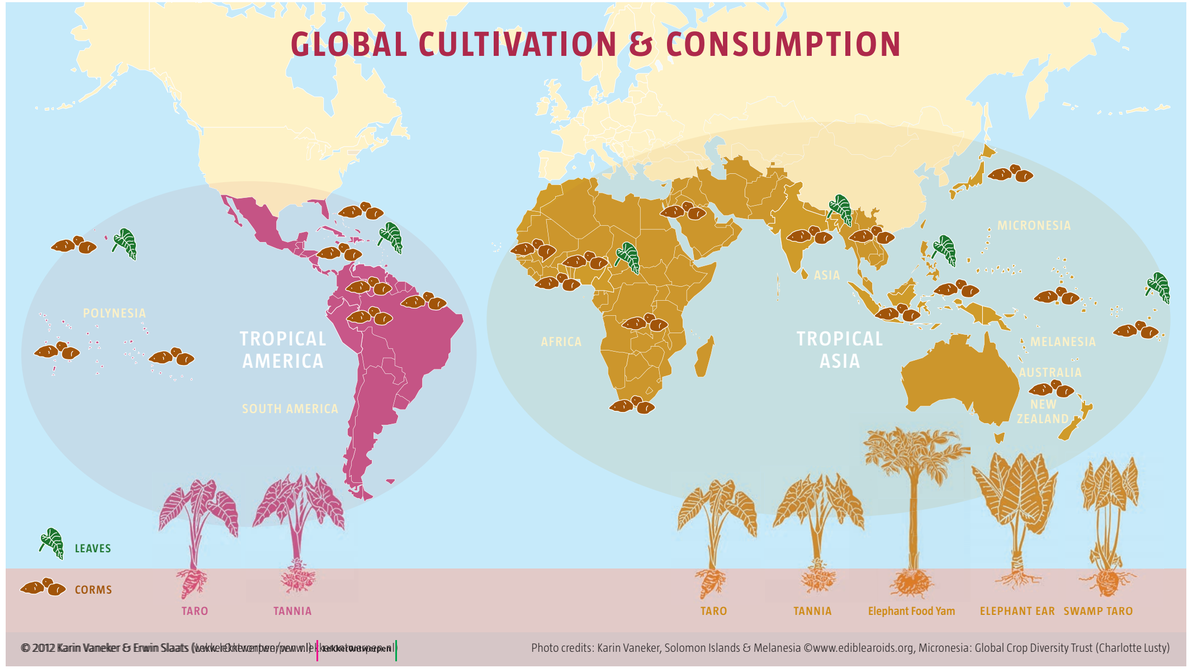
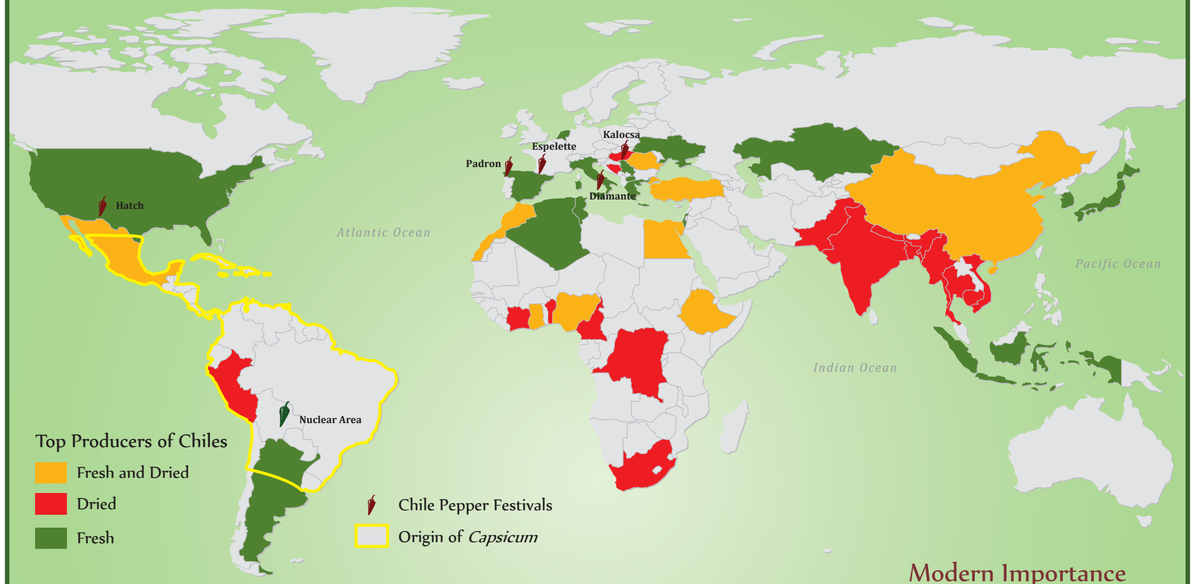


Photo credits: Karin Vaneker, Solomon Islands & Melanesia ©www.ediblearoids.org, Micronesia: Global Crop Diversity Trust (Charlotte Lusty)

Gerald Zhang-Schmidt & Crystalyn DelaCruz

The World According to Chile Peppers



Origins

The nuclear area of the genus *Capsicum*, where it arose several thousand years ago, was apparently in Eastern Bolivia. From there, it spread throughout subtropical and tropical South and Central America, where it belonged to the first cultivated food plants (to which remains from 6000 years ago attest). The very adoption of the chile pepper into the human diet is a riddle, as no other mammals develop the liking for their pungency that humans acquire. Theories range from nutritional benefits and antimicrobial effect (vitamin content and protection against food-borne illnesses) to physiological benefits (chile-induced sweating helps to cool in hot climates).

Spread

Given the importance of spices in medieval Europe, it is not surprising that Christopher Columbus should have brought back chile peppers on his very first voyage. It is not known how they were first received, but they spread quickly and widely.

- In 1542, Leonhart Fuchs (in *De Historia Stirpium*) spoke of "Indian" or "Calecutian" pepper, believing them to be from South Asia.
- Clusius (Charles De L'Escluse), writing in *Curae posteriores* (*Curaposter*; 1611) mentions peppers being grown in Castilia, Spain and around Brünn, Moravia.
- Nikolaus von Jacquin, in perhaps the strangest twist, gives *Capsicum chinense* its name "after its homeland" China, where this species is still but rarely found, even though he also mentions having seen it on the Caribbean island Martinique (*Hortus botanicus vindobonensis*, 1770-1776).
- About the same time (between 1750-1800), a medicinal thangka was created in Tibet with depictions of chile peppers as medicinal plants.

Modern Importance

By now, chile peppers have become major crops and commodities, as well as an integral part of many cuisines and cultures around the world. For Mexicans, Bhutanese, Chinese from Sichuan and Hunan, and other so-called "chileheads" around the world, eating spicy foods is a marker of cultural identity. In various parts of the world, chile peppers also find use or representation in practices to ward off evil and bring good luck. Chile pepper festivals in the USA and Europe celebrate traditional varieties and uses of the spicy pods. In continuation of the chile pepper craze, the hot sauce market is currently one area of growth and the hunt for the hottest pepper has heated up in recent years. The Bhut Jolokia, from Assam and Nagaland, India, gained notoriety as the hottest pepper, thus becoming popular. It was recently surpassed by the Trinidad Scorpion and Trinidad Moruga Scorpion. These peppers originated in Trinidad and were further developed in Australia and the USA.

Production data for 2010. Source: FAOSTAT

Author: Gerald Zhang-Schmidt
Cartographer: Crystalyn DelaCruz

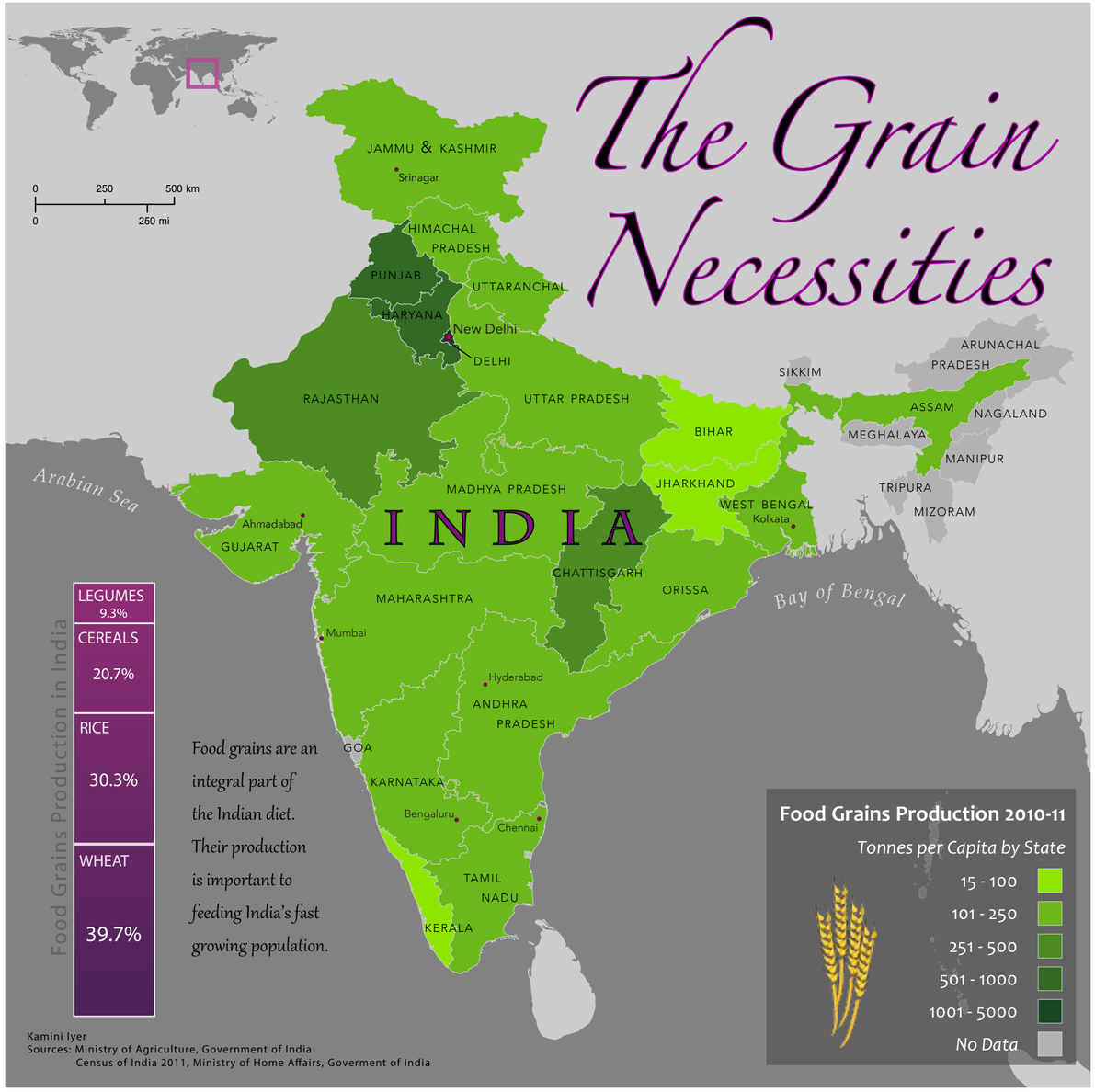
The Grain Necessities

Kamini Iyer

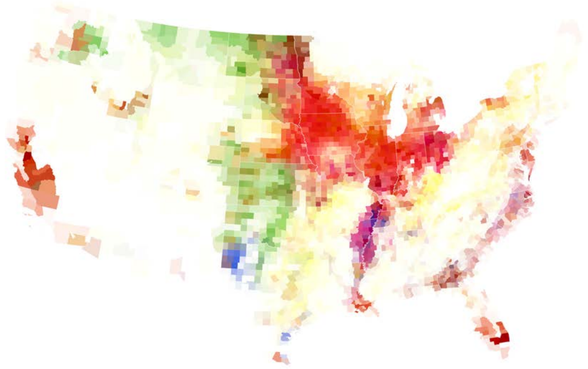
— next pages —

A Landscape of Specialization

Bill Rankin

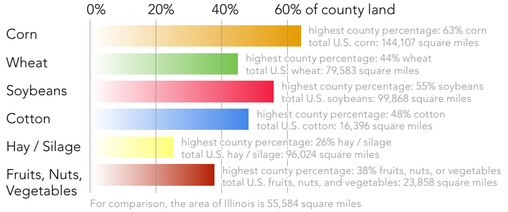


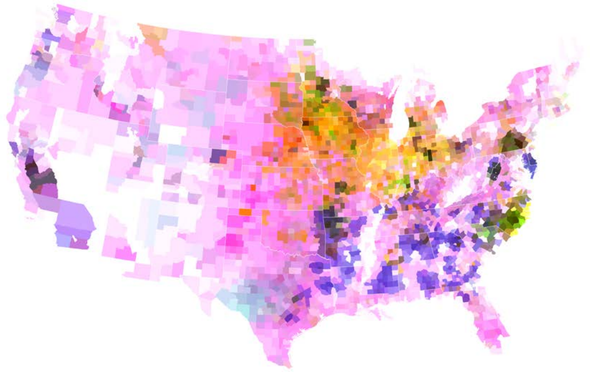
No cartographically meaningful agriculture in Alaska. Only inhabited islands shown.



Crops

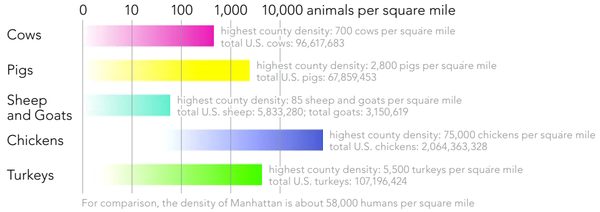
Percent of land devoted to each crop in 2007, by county.

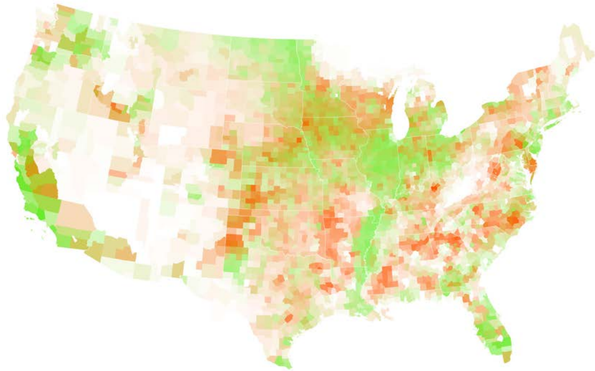




Animals

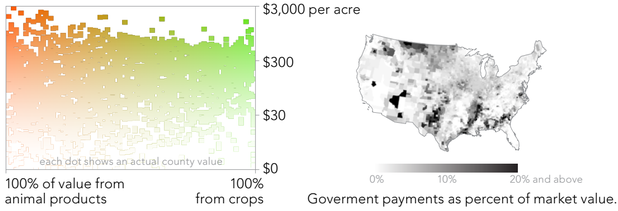
Population density by county based on inventory at the time of the 2007 census.





Value

Aggregate market value of all agricultural products sold in 2007, by county.



Goverment payments as percent of market value.

A LANDSCAPE OF SPECIALIZATION
Bill Rankin

The geography of US agriculture is not a smooth space of overlapping local conditions; it is instead a disjointed and lumpy space of specialization. With the exception of some crops in the Midwest, there are few areas where different commodities are grown side by side, and while cattle are distributed relatively evenly throughout the country, the production of all other animals is quite concentrated.

These maps suggest that we need to rethink our commonplace ideas of localism and the virtues of local farming. While local food is often more healthful or sustainable, the idea that the US could become a nation of locavores is absurd. No major city could ever source all of its food from local farms—not even those close to major agricultural areas.

All maps shown at the same scale using equal-area projections. Data from the 2007 US Census of Agriculture.

Cameron Reed

THE AMERICAN BEERSHED

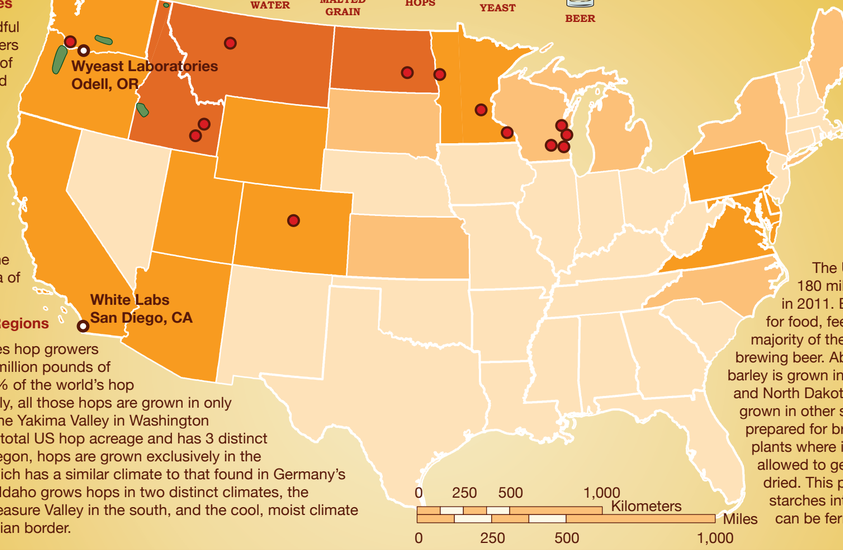
The basic ingredients of beer are water, malted grain, hops, and yeast. Malted barley is the most common grain used for brewing beer and, when boiled, it releases fermentable sugars which the yeast convert into alcohol. Hops are used to add bitterness and flavor in order to balance the sweetness of the malt.

Yeast Laboratories

There are only a handful of major yeast suppliers in the world and two of them are in the United States: Wyeast Laboratories and White Labs. Each offers dozens of different yeast strains for both commercial and personal use. The type of yeast used strongly influences the final flavor and aroma of the beer.

Hop Growing Regions

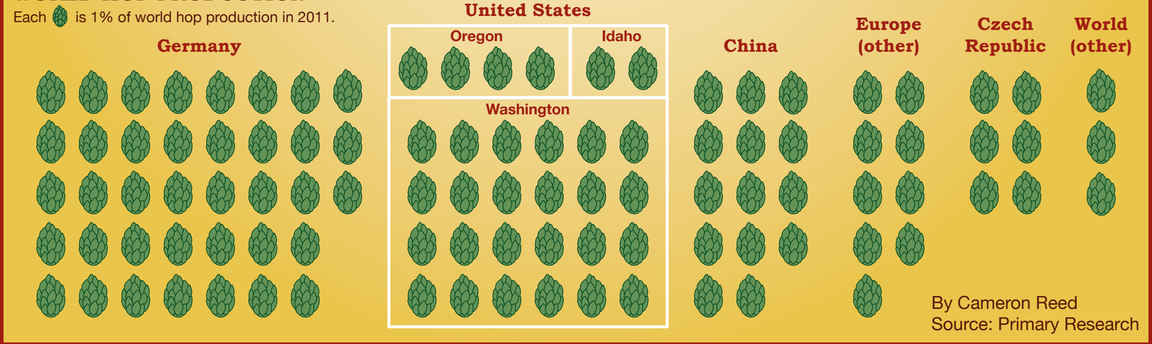
In 2011, United States hop growers produced nearly 65 million pounds of hops, which was 30% of the world's hop production. Amazingly, all those hops are grown in only four small regions. The Yakima Valley in Washington contains 75% of the total US hop acreage and has 3 distinct microclimates. In Oregon, hops are grown exclusively in the Willamette Valley, which has a similar climate to that found in Germany's hop growing region. Idaho grows hops in two distinct climates, the irrigated desert of Treasure Valley in the south, and the cool, moist climate zone near the Canadian border.



The US produced over 180 million bushels of barley in 2011. Barley can be used for food, feed, and seed, but the majority of the crop is used for brewing beer. About 60% of US barley is grown in Idaho, Montana, and North Dakota, while the rest is grown in other states. Barley is prepared for brewing at malting plants where it is soaked in water, allowed to germinate, and then dried. This process converts starches into simple sugars that can be fermented by the yeast.

WORLD HOP PRODUCTION

Each is 1% of world hop production in 2011.



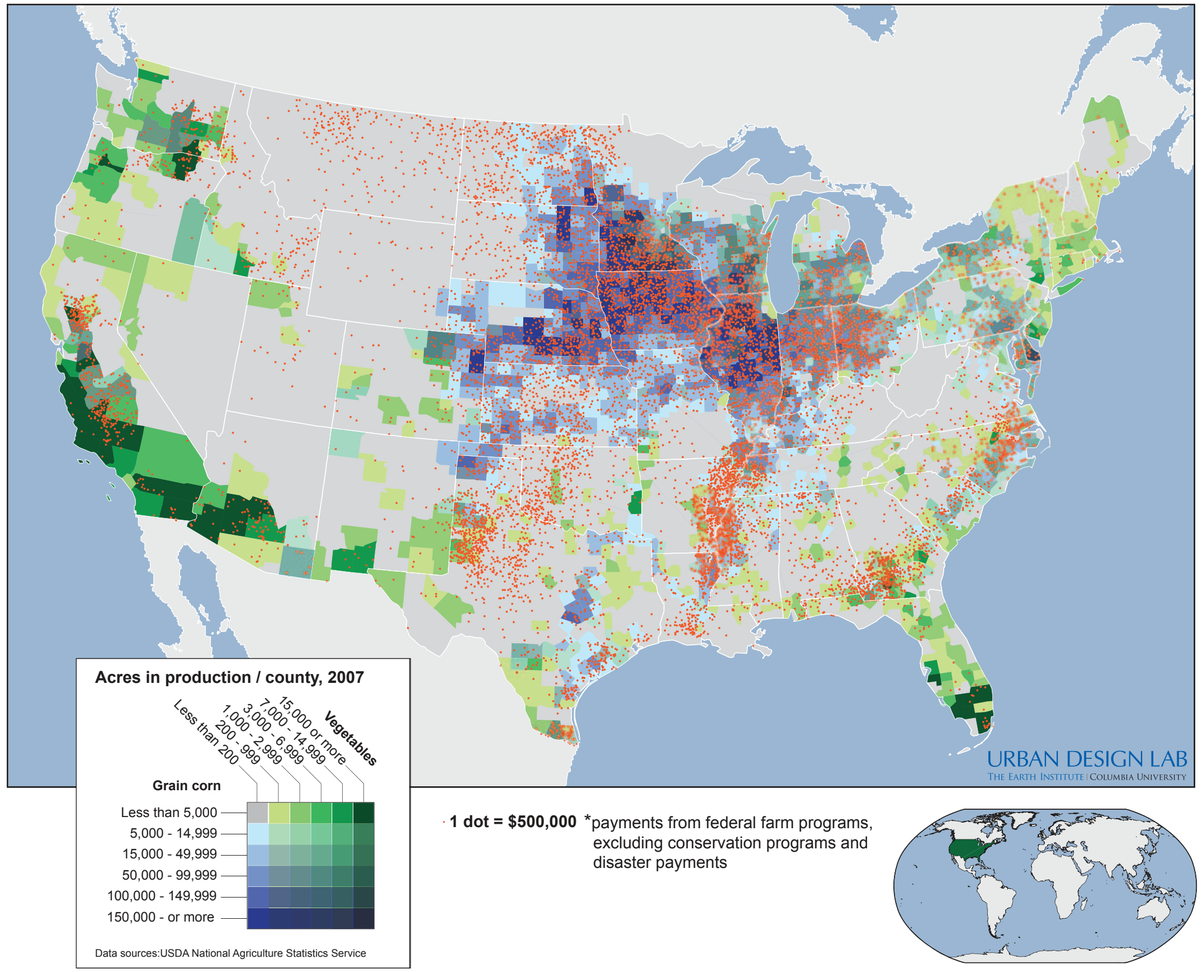
By Cameron Reed
Source: Primary Research

Fungus AmongUS: Mushroom Farms in the USA

Shannon Kail & Terra N Tice

Commodity Agriculture and Subsidies

U.S. grain corn and vegetable production + payments received from federal farm programs

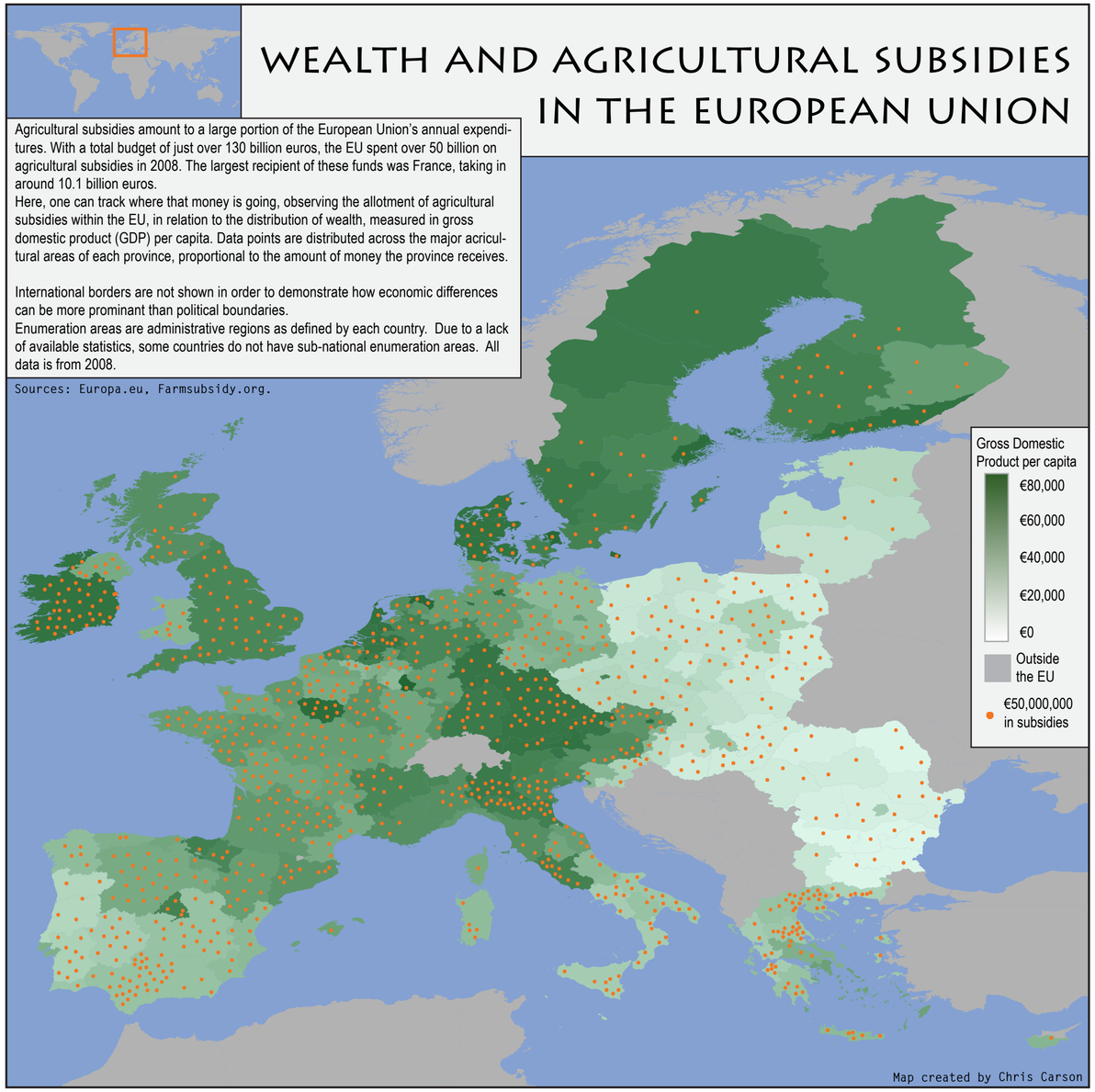


· **1 dot = $500,000** *payments from federal farm programs, excluding conservation programs and disaster payments

In 2007, the federal government disbursed $8 billion in direct payments to farms as part of an ever-increasing subsidy program that has been in place since the 1930's. That year, $1.8 billion went toward land conservation-related programs, while the remainder was used to support the production of major agricultural commodities, irrespective of farm need (this total does not include subsidized crop insurance). From 1955 to 2011, approximately 38% of such payments have historically gone to producers of grain corn (used primarily for animal feed and as a biofuel), with the other major commodity crops (cotton, wheat, rice, and soybeans) accounting for an additional 50%. Most fruit and vegetable crops were not eligible for such payments (many produce growers advocated against direct subsidies due to concerns about price deflation). The pending 2012 Farm Bill legislation would reduce or eliminate direct payments for most commodity crops. Production of feed and fuel crops such as corn is heavily concentrated in the highly fertile land of the Midwestern U.S., while vegetable crops are generally produced closer to population centers and near the coasts.

Wealth and Agricultural Subsides in the European Union

Chris Carson



Protecting Food Specialities in the EU

Europe has many different regions and the conditions for agricultural production vary. The different regions have specific production methods and culinay traditions.
European, global consumers and food trade are showing an increasing interest in the qualities of these foods.
The EU plays a major role in enhancing and safeguarding in many ways these high quality attributes and, for this reason, has developed three quality logos: PDO, TSG and PGI.

PROTECTED DESIGNATION OF ORIGIN (PDO)

A PDO gives status to a food product which is produced entirely within a defined geographical area using recognised skills and ingredients from the region and which is linked to its geographical origin.
PDOs include many cheeses (e.g. Parmigiano Reggiano, Feta, Queso Manchego), meat products (such as Prosciutto San Daniele), olive oil (Kalamata, Montoro-Adamuz, Umbria), fruits and vegetables and many wines.

TRADITIONAL SPECIALITY GUARANTEED (TSG)

A TSG emphasises a product's traditional make-up or traditional production method.
It is therefore not linked to a geographical region (Jamon Serrano is an example).

PROTECTED GEOGRAPHICAL INDICATION (PGI)

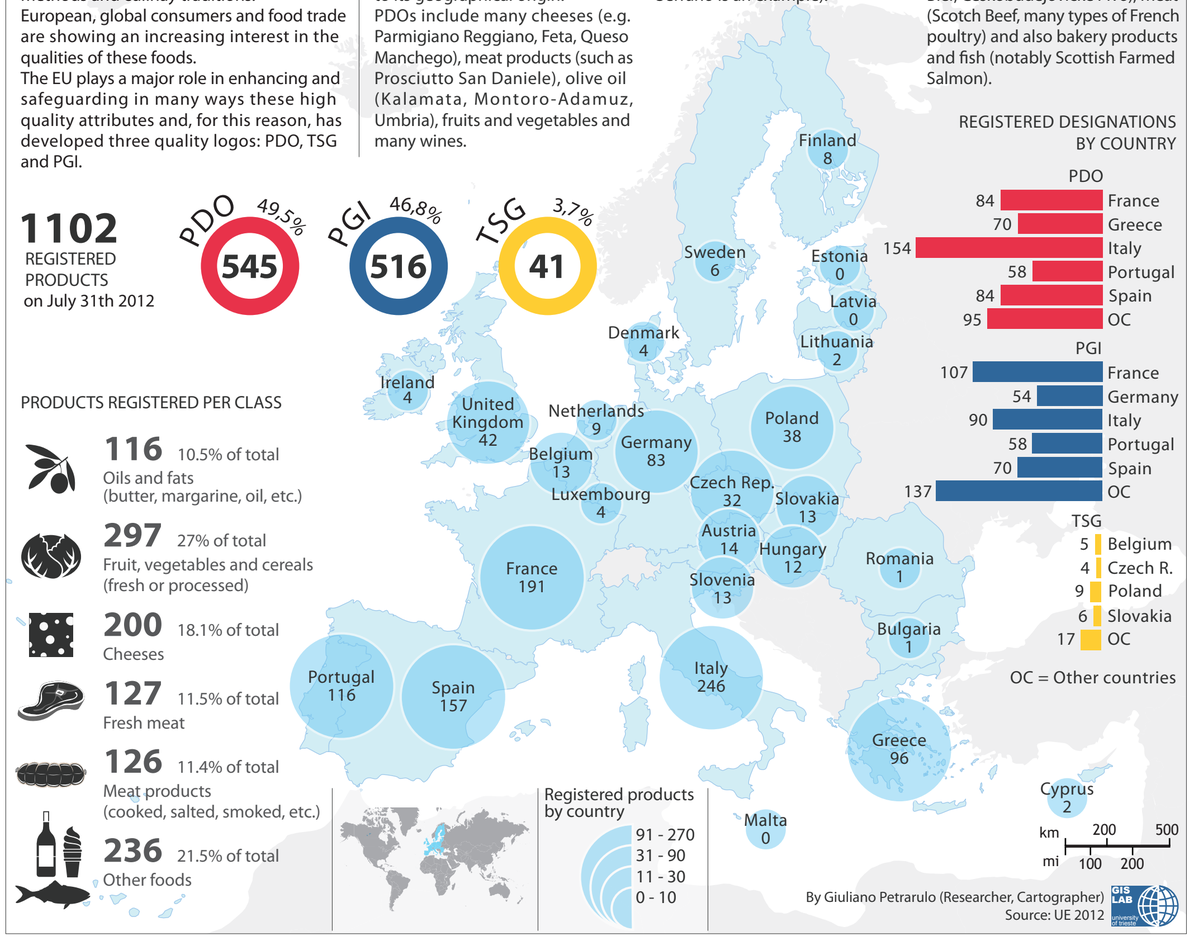
A PGI denotes a food linked by its quality and reputation to a region in which at least one stage of production took place.
PGIs include beers (Münchener Bier, Ceskobudejovicke Pivo), meat (Scotch Beef, many types of French poultry) and also bakery products and fish (notably Scottish Farmed Salmon).

1102 REGISTERED PRODUCTS on July 31th 2012

PDO 49,5% **545**
PGI 46,8% **516**
TSG 3,7% **41**

PRODUCTS REGISTERED PER CLASS

- **116** 10.5% of total — Oils and fats (butter, margarine, oil, etc.)
- **297** 27% of total — Fruit, vegetables and cereals (fresh or processed)
- **200** 18.1% of total — Cheeses
- **127** 11.5% of total — Fresh meat
- **126** 11.4% of total — Meat products (cooked, salted, smoked, etc.)
- **236** 21.5% of total — Other foods



REGISTERED DESIGNATIONS BY COUNTRY

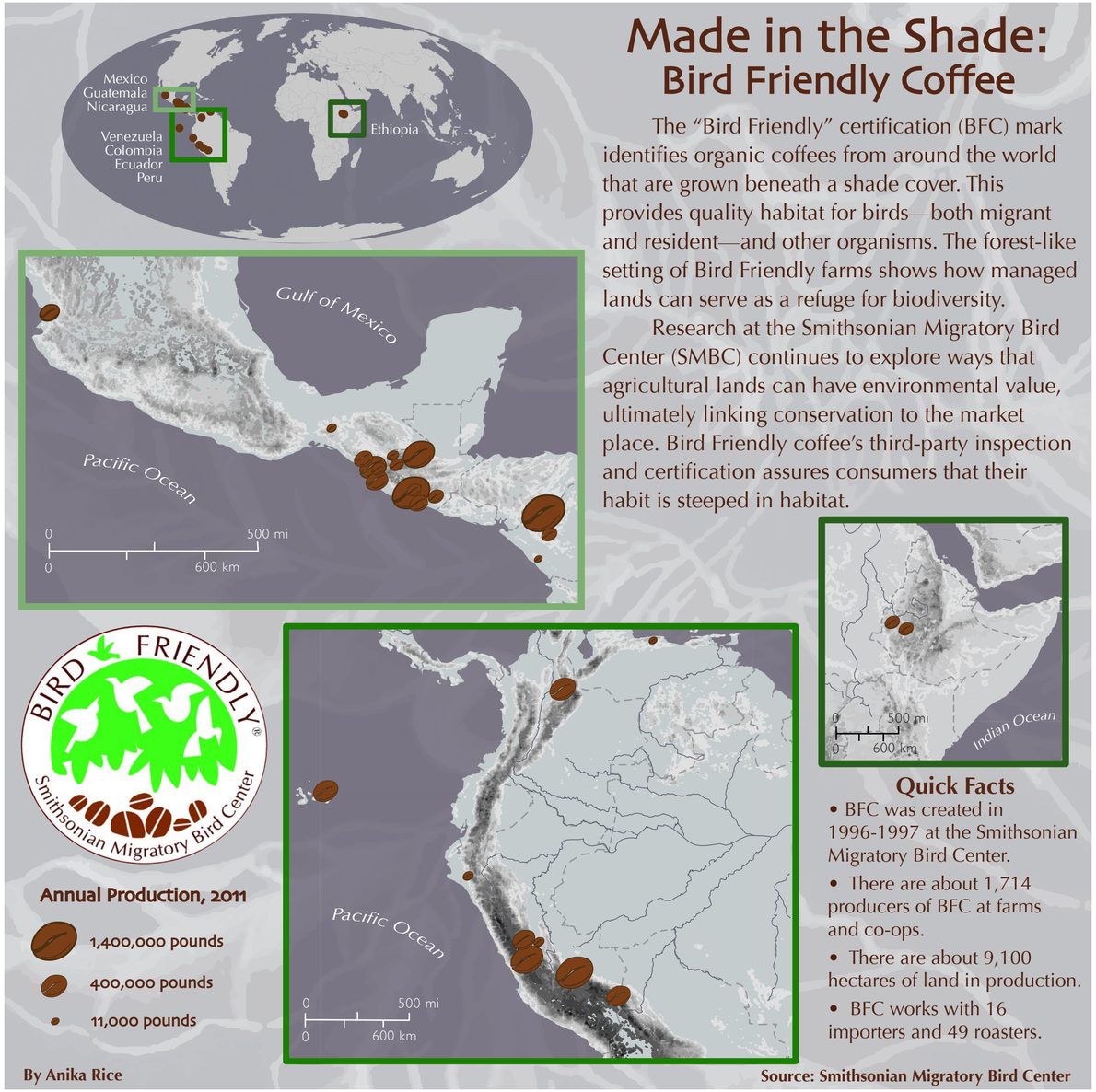
PDO
84 France
70 Greece
154 Italy
58 Portugal
84 Spain
95 OC

PGI
107 France
54 Germany
90 Italy
58 Portugal
70 Spain
137 OC

TSG
5 Belgium
4 Czech R.
9 Poland
6 Slovakia
17 OC

OC = Other countries

Anika Rice


Made in the Shade:
Bird Friendly Coffee
The "Bird Friendly" certification (BFC) mark identifies organic coffees from around the world that are grown beneath a shade cover. This provides quality habitat for birds—both migrant and resident—and other organisms. The forest-like setting of Bird Friendly farms shows how managed lands can serve as a refuge for biodiversity.
Research at the Smithsonian Migratory Bird Center (SMBC) continues to explore ways that agricultural lands can have environmental value, ultimately linking conservation to the market place. Bird Friendly coffee's third-party inspection and certification assures consumers that their habit is steeped in habitat.
Mexico
Guatemala
Nicaragua
Venezuela
Colombia
Ecuador
Peru
Ethiopia
Gulf of Mexico
Pacific Ocean
0
500 mi
0
600 km
Indian Ocean
BIRD FRIENDLY
Smithsonian Migratory Bird Center
Annual Production, 2011
1,400,000 pounds
400,000 pounds
11,000 pounds
Quick Facts
• BFC was created in 1996-1997 at the Smithsonian Migratory Bird Center.
• There are about 1,714 producers of BFC at farms and co-ops.
• There are about 9,100 hectares of land in production.
• BFC works with 16 importers and 49 roasters.
By Anika Rice
Source: Smithsonian Migratory Bird Center

Oenocarpus bataua: The Original Amazonian Superfood

Paul V A Fine, Sarah Lewis & Tarek Milleron

— *next pages* —

California's Growing Organic Farm Movement

Michele S Forman & Terra N Tice

Oenocarpus bataua

The original Amazonian superfood

This palm tree produces fat-rich fruits with high-quality protein and a delicious nutty flavor. Its fruit oil is comparable to olive oil. Vigorously mixing bataua fruit pulp with water yields a beverage similar in nutritional value to human milk.

Fruits from this common palm could be more widely utilized to improve people's nutrition across Amazonia. One adult palm reliably produces about 25 kg of fruit annually.

Paul V.A. Fine, Sarah Lewis & Tarek Milleron

Existing inventory plots

O. bataua tree density per hectare

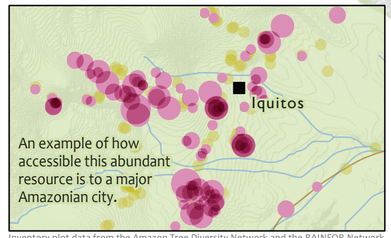
- > 50
- 26 – 50
- 10 – 25
- < 10
- None found

Archaeological sites (Dates ± 25 - 65 yrs)

Remains of *O. bataua* at these sites indicate that people have been enjoying its fruit for thousands of years and have likely been managing its high densities.

The **known range** of this species falls below 1,000 meters in elevation.

< 1,000 m <



Inventory plot data from the Amazon Tree Diversity Network and the RAINFOR Network
Iquitos data provided by H. Balslev, Aarhus University, Denmark, funded by Danish NSRC

Palms in old growth forests can be 20 meters tall and 50-100 years old. Conservation of this species close to human settlements is important for human diets.

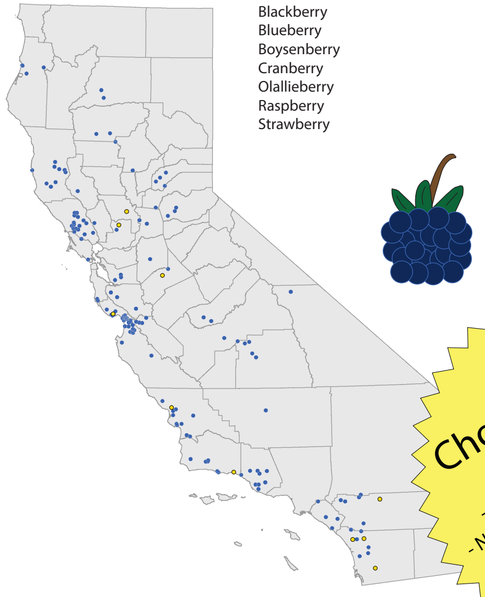
Wild harvests are sustainable as long as people climb palms to collect their fruit. In recent decades, many fruit harvesters have instead cut palms down. This reduces the availability of bataua fruit for people.

Nutritious *O. bataua* milk is rich and smooth, likened to *"hazelnuts and cream"* by Richard Spruce, 19th century botanist and Amazonian explorer. In Iquitos and other cities, bataua pulp is also used as a key ingredient of ice cream.

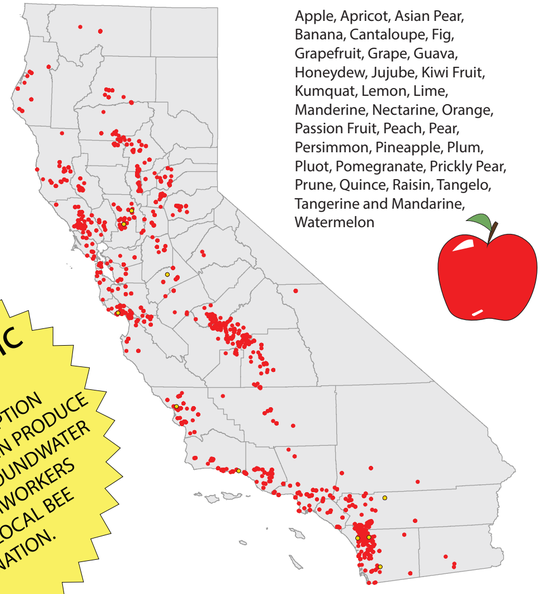
Image credits: Juan Carlos Montero & Kike Arnal. Illustration: Chase Wilson

"Today we are serving Majo milk"

California's Growing Organic Farm Movement



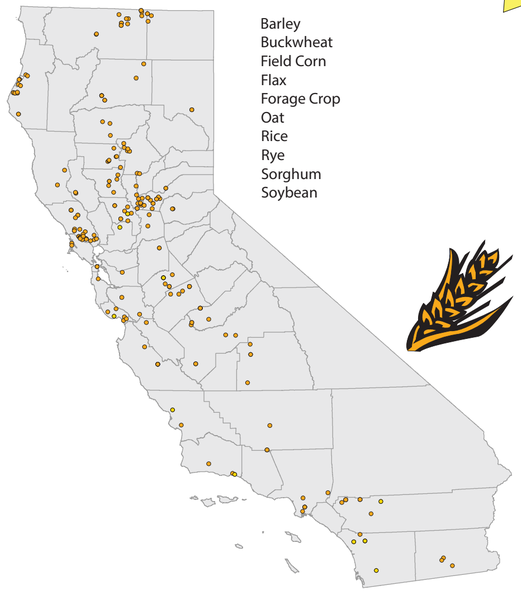
Blackberry
Blueberry
Boysenberry
Cranberry
Olallieberry
Raspberry
Strawberry



Apple, Apricot, Asian Pear, Banana, Cantaloupe, Fig, Grapefruit, Grape, Guava, Honeydew, Jujube, Kiwi Fruit, Kumquat, Lemon, Lime, Manderine, Nectarine, Orange, Passion Fruit, Peach, Pear, Persimmon, Pineapple, Plum, Pluot, Pomegranate, Prickly Pear, Prune, Quince, Raisin, Tangelo, Tangerine and Mandarine, Watermelon

Choose Organic

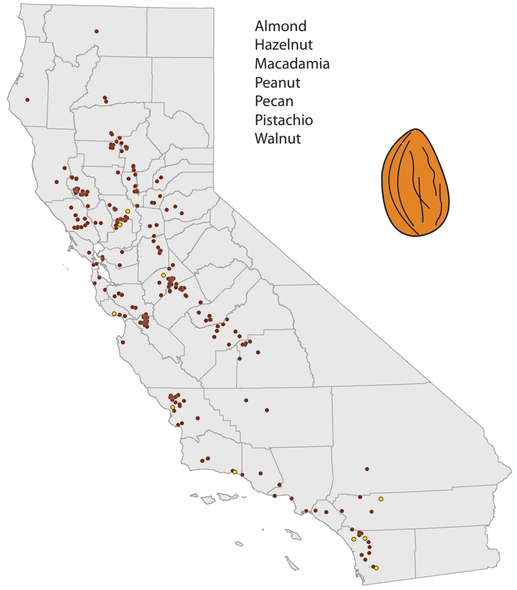
- BETTER TASTE
- LESS WATER CONSUMPTION
- NO PESTICIDE RESIDUE IN PRODUCE
- SOILS, STREAMS, GROUNDWATER
- PROTECTS FARMWORKERS
- SUPPORTS LOCAL BEE POLLINATION.



Barley
Buckwheat
Field Corn
Flax
Forage Crop
Oat
Rice
Rye
Sorghum
Soybean

Artichoke, Asparagus, Avocado, Beans, Beet, Brassica, Broccoli, Brussel Sprout, Savoy and Head Cabbage, Cauliflower, Celery, Celeriac, Chard, Chenopod, Chickory, Chinese Cabbage, Chives, Collard, Cucumber, Squash, Eggplant, Endive, Kale, Kohlrabi, Leek, Legume, Sprout, Lettuce, Leaf Vegetable, Mixed Vegetable, Mushroom, Okra, Olive, Onion, Parsnip, Pepper, Potato, Pumpkin, Raddish/Daikon, Radicchio, Shallot

Arugula
Basil
Cardoon
Cilantro
Fennel
Garlic
Horseradiish
Mixed Herb
Parsley
Umbels



Almond
Hazelnut
Macadamia
Peanut
Pecan
Pistachio
Walnut

Overseen by the United States Department of Agriculture, The California Agriculture Department's Organic Division, founded in 1979, has blossomed into a dynamic industry with 1,898 organic farms registered in 2011.

When organic sales reach $5000, official certification by an outside testing company is required. Fees of 1-2% of gross receipts is used to maintain the state inspection program.

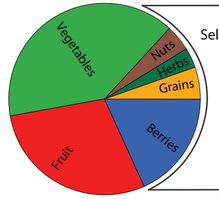
Today, California produces more than 90% of all U.S. organic sales for 14 different commodities, including 99% of walnuts, lemons, figs and artichokes and 100% of almonds and dates.

The two largest crop yields are lettuce and grapes. 81% of organic sales are made to wholesalers with the rest to retail chains with only 7% of sales direct to consumers at farm stands or markets.

Organic produce is exported to Canada, the European Union, Hong Kong, China, Mexico, India, Australia, Taiwan and United Arab Emirates.

All 150 organic crops grown in California are represented on this map. In 2010, 32% of organic farmers stated their intent to increase production with 44% planning to maintain their current levels.

Organic produce currently costs more than non-organic produce but with growing public awareness and demand, prices will drop.

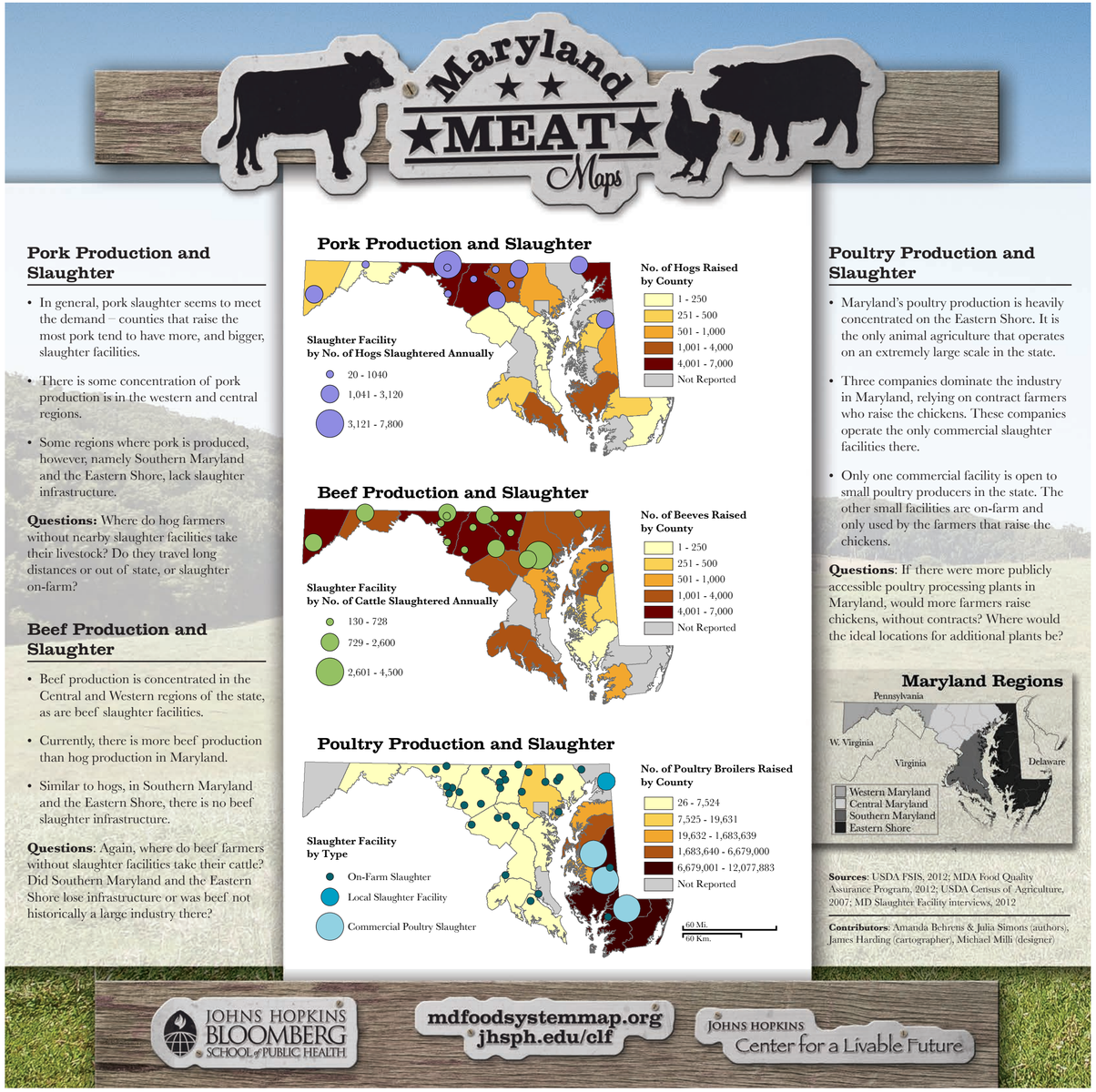


Selected Grain Crops	Annual Sales ($ Millions)	% of sales
Grains	$ 45	5.4
Herbs	$29	3.4
Nuts	$37	4.4
Vegetables	$330	39.5
Fruit	$242	29
Berries	$152	18.2
Honey	$.00072	.00072

By: Michele S. Forman, Terra N. Tice

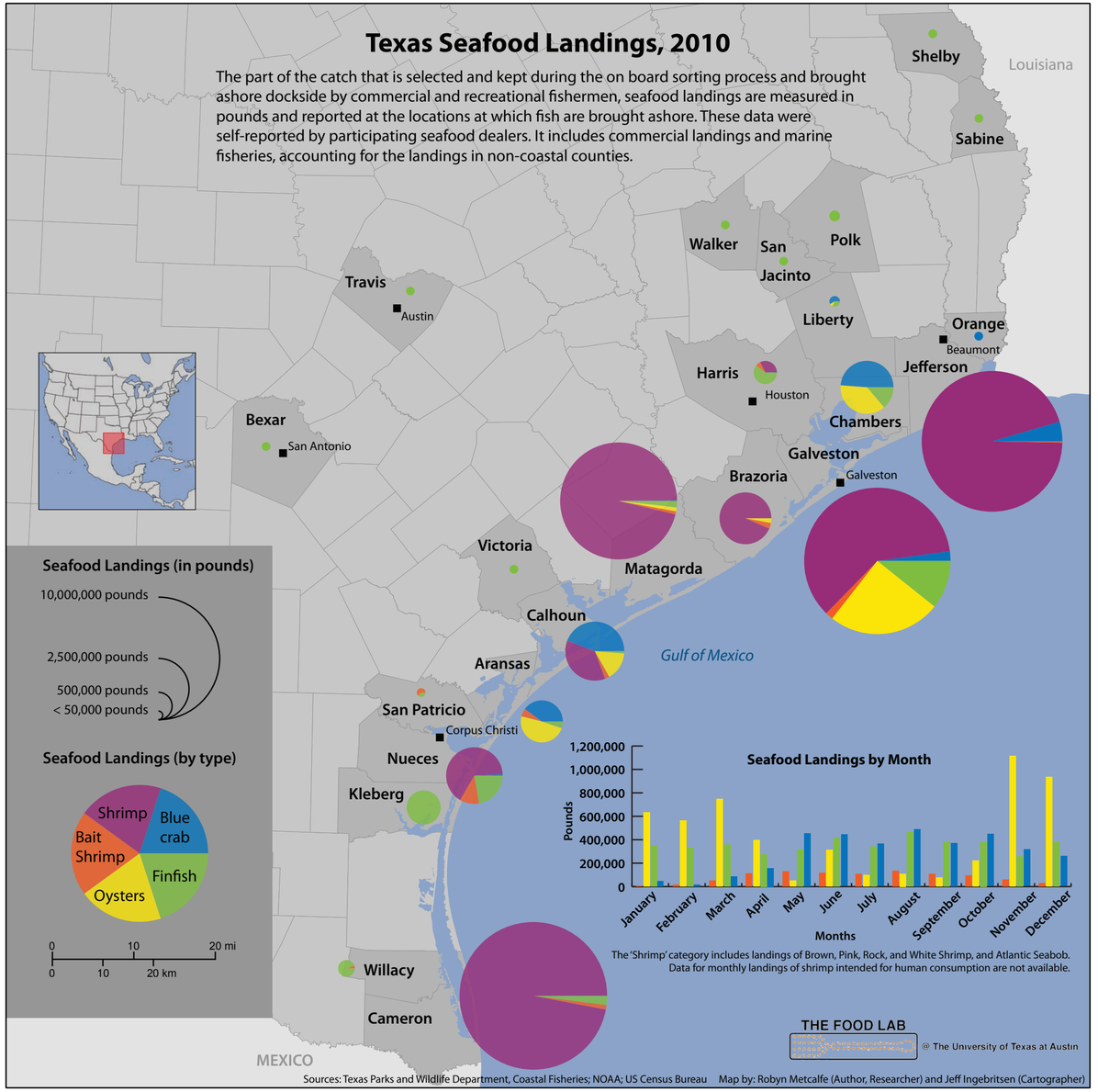
Maryland Meat Maps

Amanda Behrens, Julia Simons, James Harding, Michael Milli



Texas Seafood Landings

Robyn Metcalfe & Jeff Ingebritsen



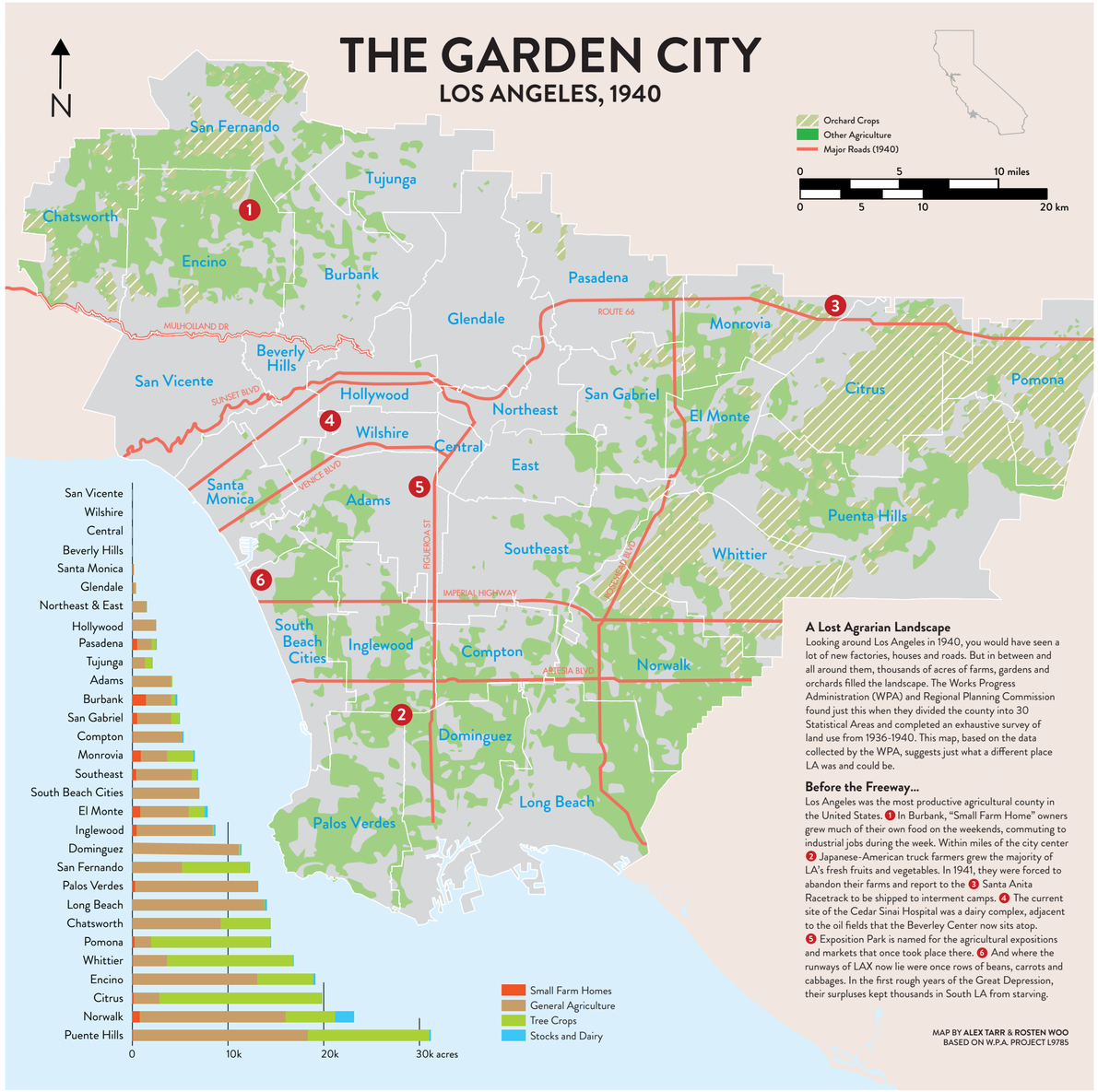
The Garden City: Los Angeles, 1940

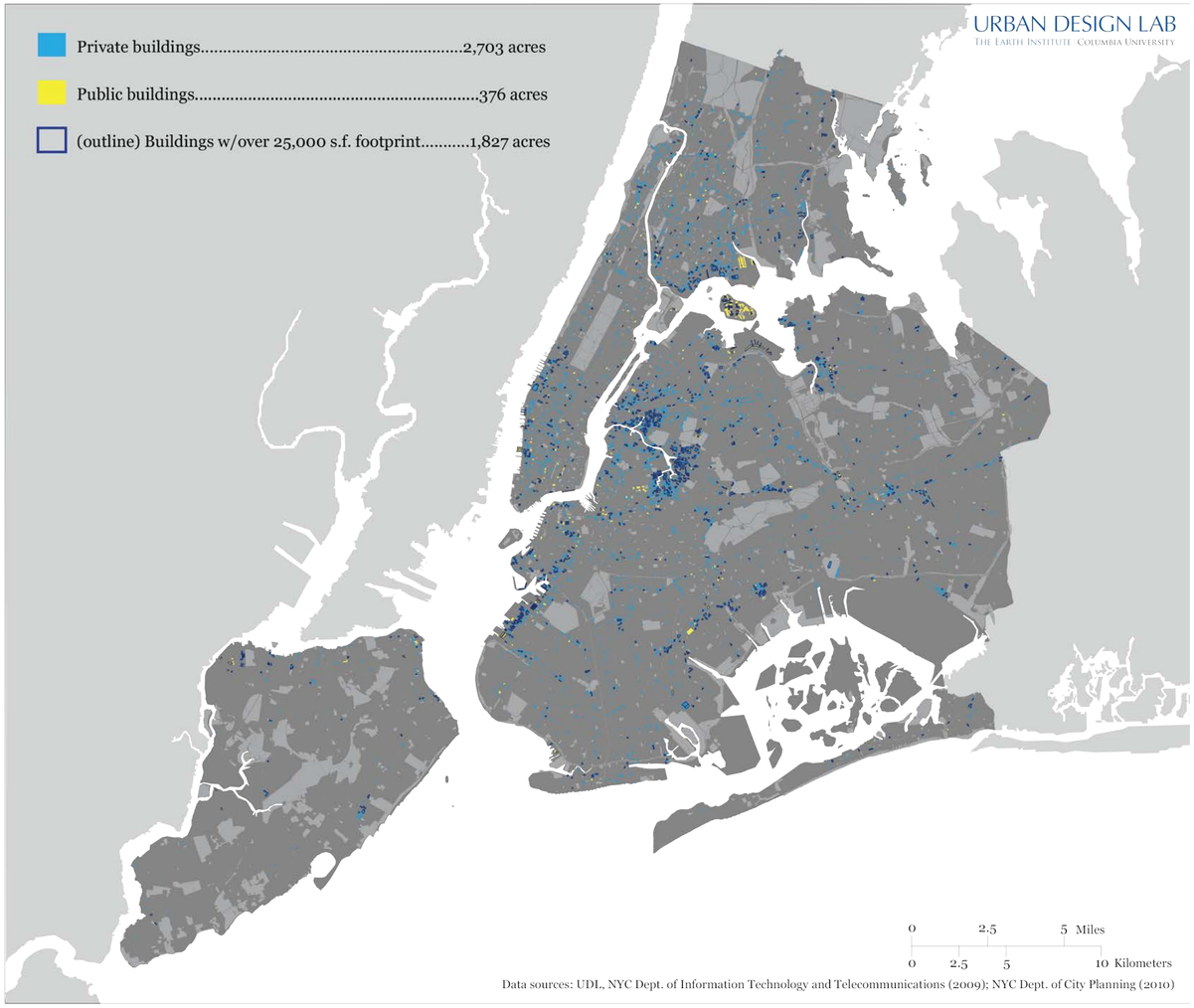
Alex Tarr & Rosten Woo

— next pages —

Potential Rooftop Farming in New York City
Food Production in New York City

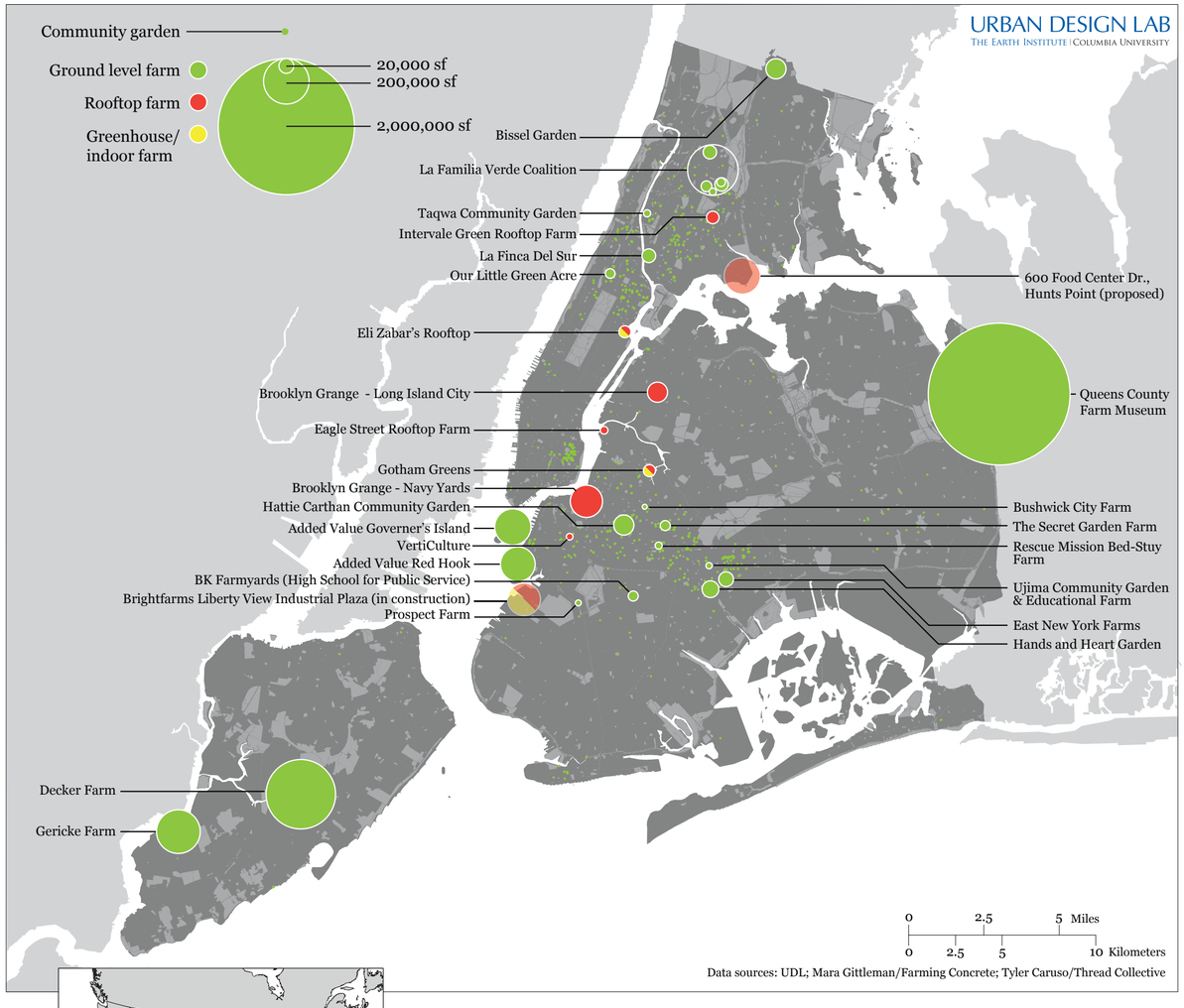
Urban Design Lab





POTENTIAL ROOFTOP FARMING IN NEW YORK CITY

New York City has the world's largest acreage devoted to food producing rooftops, due in part to its density (and corresponding site availability challenges), concentrations of appropriate building stock, and easy access to transportation and retail infrastructure. This map highlights the overall rooftop agriculture potential, with buildings constructed between 1900 and 1970 incorporating a rooftop area greater than 10,000 square feet, and within a commercial, manufacturing, or commercial overlay zone, and excluding heavy manufacturing, garages and gas stations, and utilities.



FOOD PRODUCTION IN NEW YORK CITY

There are hundreds of gardens and farms in New York City where food is being produced. Most of these exist thanks to the legacy of the community gardening movement, which has been active since the 1970's. More recently, larger-scale food production has taken root, under the guise of urban farming. While there may be no clear distinction between a community garden and an urban farm, this map shows commercial and non-profit operations that identify themselves as farms.

Compost Green Map of Manhattan: Worms in the Green Apple

Wendy E Brawer, Carlos Martinez, Anya Farquhar, Jane Barber, Risa Ishikawa, Andrew Sass, Aaron Reiss

Compost Green Map of Manhattan

Worms in the Green Apple

- Public Composting Site
- School with Composting
- Environmental Center
- Greenmarket
- Great Views
- Parklands/Recreation Area
- Community Garden
- Rooftop Garden
- Native Plants
- Solar Energy
- Special Household Waste Station
- Info Resources Online

Scale:
0 mile 1 2
0 km. 1 2 3

GREEN MAP™

1 Inwood Hill Park Nature Center
218th & Indian Rd.
Large-scale worm bin for community & Center's food waste. Educational portable worm bin, too.

2 Riverside-Inwood Neighborhood Garden (RING)
Dyckman, Riverside & Broadway triangle
3 compost bins, 2 wire holding pens & worm bin. Schools program, butterflies and more.

3 Our Lady Queen of Martyrs School
71 Arden St.
Composting cafeteria waste in rooftop garden.

4 Riley-Levin Children's Garden Swindler Cove Park
Harlem River Drive & Dyckman St.
Compost bin in children's garden.

5 West 181st Street Beautification Project
880 W. 181st St.
Public drop off. Compost in beautiful community garden with youth leadership program.

6 West 124th Street Community Garden
Between Lenox & Fifth Aves.
Small but growing bin system and workshops in Spanish & English!

7 PS 76 A.P. Randolph School
220 W. 121st St.
Fun Roly Pig compost bin and yard waste system.

8 Rodale Pleasant Park Garden
437 E. 114th St.
Three bin composters, with rainwater recycling and straw-bale shed!

9 Central Park Conservancy
Compost Drive, near E. 105th St. behind Conservatory Garden
CPC composts all the Park's yard waste in windrows.

10 High School for Environmental Studies
444 W. 56th St.
Worm bins in classrooms, garden waste composting on the green roof & even a composting club.

11 Clinton Community Garden
West 48th St. btw 9th and 10th Aves.
Composting, bee hives and flower, native plant and vegetable gardens.

12 NYC Department of Sanitation Special Household Waste Drop Off Station
605 W. 30th St. btw 11 & 12 Aves
NYC.gov/wasteless

13 The School of the Future
127 E. 22nd St.
Vermicomposting of local business waste and green roof!

14 Solar One
E. 23rd St. & FDR Drive
Educational worm bin for food waste. Green building and arts, too!

15 Stuyvesant Cove Park
E. 18th – 23rd St. & FDR Drive
3-bin compost system for yard waste, mid-park. Riverside refreshment!

16 Union Square Greenmarket
17th St. & Park Ave. South
Public drop off & compost outreach, every MWF & Sat. 8am to 5pm.

17 Lower East Side Garden
E. 11th St. east of 1st Ave.
Composting in Open Road's student-designed garden.

ABOUT THIS MAP:

Every day, more New Yorkers are composting. Almost 200 community gardens offer Manhattanites a great place to start composting. Only Sites welcome public drop offs! This map features with compost and education programs and they're a great way to create community and clean air, too. Citywide, find the closest at OasisNYC.net.

18 La Plaza Cultural Armando Perez
9th Street & Avenue C
3 bin system with tumbler for members only. Great art & amphitheater!

19 Lower East Side Ecology Center Garden
E. 7th St. btw Aves. B & C (north side)
Public drop off, any time through gate opening. Community garden open year-round: Sundays 8am to 5pm.

20 Franklin Roosevelt PS 34
730 E. 12th St.
Educational composting in historical garden setting.

21 6B Garden & 6BC Garden
E. 6th St. & Ave. B, corner & mid-block
Composting their own yard waste and garden members' food waste.

22 Earth School
600 E. 6th St.
Outdoor bins in school's garden for yard waste & students' food waste.

23 East River Park
Delancey St. & FDR Drive
LESEC's custom-built in-vessel food waste system composts waste collected from their public drop off sites.

24 Grand St. Fireboat House
Grand St. & FDR Drive
LESEC's East River Park Environmental Learning Center. Compost & ecology workshops & events, year-round!

25 PS 134
293 East Broadway
Classroom worm bins & garden compost site in development.

26 New York University
Locations in Lower Manhatan
NYU's 13 dining halls began composting in 2008. Averaging 15 tons per day, find out more about their campus-wide greening program at NYU.edu/sustainability.

27 PS 2
122 Henry St.
Classroom worm bins.

28 City As School
16 Clarkson St.
Project Grow composting entrepreneurship program.

29 Battery Park City Parks Conservancy
Battery Park Pl. & Thames St.
Advanced compost systems for office & supermarket food waste. Eco-smart "Leave it on the Lawn" policy & windrows for yard waste.

Why Compost in NYC?

The average NYC household discards two pounds of organic waste each day. Citywide, that's 1,000,000 tons a year! Composting turns this mountain of material into a renewable resource that helps green up NYC, indoors and out. Composting is the most energy-efficient kind of recycling, and helps reduce the number of stinky garbage truck trips, too!

As seen in Central Park

Worms in the Green Apple

Worm composting (vermicomposting) is an indoor method for recycling food waste into rich compost. Fill a container with moistened newspaper and red worms, then continually add food and plant waste. Red wiggler worms eat half their weight in food each day and leave worm castings (a.k.a. compost) behind, so it's really effective, even for busy New Yorkers!

Red wiggler worms

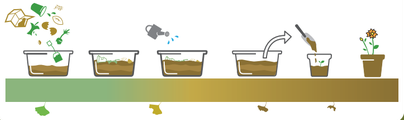
What can I Compost?

GREENS
materials that are rich in nitrogen

- Fruit and Vegetable scraps
- Coffee grounds & Filters
- Tea bags
- Green plants
- Hedge trimmings
- Grass clippings
- Weeds (without seeds)
- Feathers
- Spoiled juice

BROWNS
materials that are rich in carbon

- Fall leaves & Spent plants
- Twigs and Wood chips
- Sawdust & Wood shavings
- Shredded Newspaper
- Egg shells and Nutshells
- Bread and grains
- Wood ashes
- Food-soiled Paper towels & Napkins



OpenGreenMap.org/compostNYC

Explore the movement in 65 countries at GreenMap.org

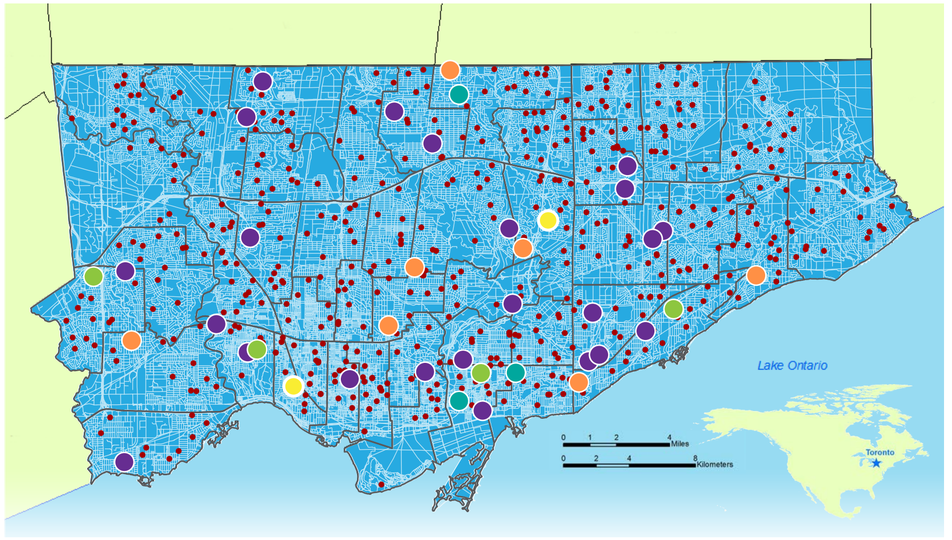
Sources: Green Map System, Lower East Side Ecology Center, GrowNYC, Manhattan Borough President's Office, NYU Sustainability, Green Thumb Grow Together participants and others.

By Wendy E. Brawer & Carlos Martinez (Authors), Anya Farquhar, Jane Barber Design, Risa Ishikawa & Andrew Sass (Graphic Designers) and Aaron Reiss (Book Layout)

Toronto's Eco-Schools: From Food Waste to Food Gardens

Asya Bidordinova, Tammara Soma, Vick Naresh

TORONTO'S ECO-SCHOOLS
FROM FOOD WASTE TO FOOD GARDENS



In Toronto, the Eco-school certification acknowledges schools that integrate environmental awareness and action into their everyday school activities. Schools can be certified as a bronze, silver, gold or platinum level Eco-school. The four components of Eco-school certification are energy conservation, school ground greening, ecological literacy, and waste minimization. Within the category of waste minimization, many Eco-schools are tackling the issue of food waste by participating in an onsite composting or green bin program.

This map highlights gold and platinum level Eco-schools in Toronto that have demonstrated commitment to a sustainable food system by way of on-site composting, green bin organic collection, and or school gardening activities. Other schools identified by the small red dots will hopefully follow in this path of environmental stewardship.

Managing food waste appropriately in school is important as it diverts food waste from the landfill and turns food waste into a resource!

- TORONTO DISTRICT SCHOOL BOARD SCHOOL
- ON-SITE COMPOSTING + ONSITE GARDEN
- ON-SITE GARDEN
- ON-SITE COMPOSTING
- GREEN BIN PROGRAM
- ON-SITE GARDEN + GREEN BIN PROGRAM

Important Fact

1/3 of waste going to landfill is organic

Composting reduces the greenhouse gas methane in landfills and turns waste into a resource.

EXAMPLE OF A CLOSED LOOP FOOD SYSTEM IN SCHOOL

STUDENT BRINGS FOOD → LUNCH → FOOD WASTE IS COLLECTED IN A GREEN BIN → WASTE IS COMPOSTED (INDOOR VERMI-COMPOSTING/ OUTDOOR COMPOSTING) → ADD COMPOST TO SCHOOL GARDEN → FOOD GROWS → STUDENT BRINGS FOOD

Map & Text: Asya Bidordinova & Tammara Soma **Graphic Design:** Vick Naresh **Data Source:** Open Data - City of Toronto, www.toronto.ca/open

FOOD : *distribution*

"Would you like that for here or to go?"

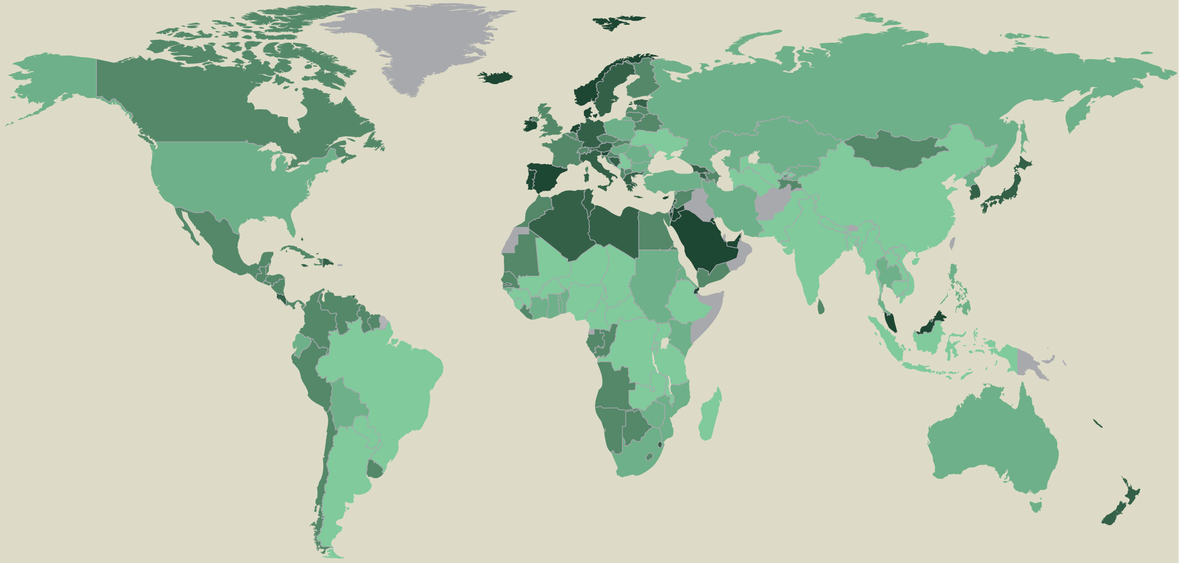
Unless you're a back-to-the-lander or live in a 100% self-sufficient village, you rely on various means of food distribution to get your daily bread. Even farmers market produce travels around 100 miles to reach your neighborhood stall. An intricate network of farmers, processors, stevedores, and middlemen all play their part in a vast system of food distribution and transport that now implicates the entire world. From the redundant trade of tomatoes in Europe and the world conquest of the California almond industry to farmers markets' food miles and the availability of fallen fruit, this chapter explores the travels of food.

Food in Flux: The World of Imports

Chelsea Guerrero

Food in Flux: The World of Imports

When food becomes a global commodity, individual survival depends on global trade. Dependence on food imports is dictated by a number of factors. Too little farmland within a country results in too little food for its people. International trade rules and tariffs force some to buy cheap goods from others rather than grow it themselves. A peoples' changing diet may demand foreign products. The map below gives a snapshot of this dynamic global food trade.



Percentage of Food Imports to Total Food Available

These percentages indicate the extent to which a country depends upon imports to feed its population

- 0–25%
- 25.1–50%
- 50.1–100%
- 100.1–150%
- > 150%
- No Data

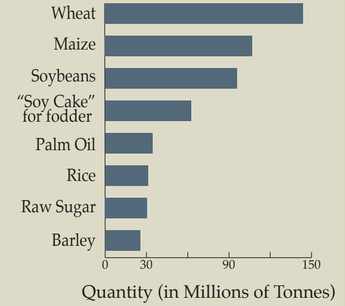
"Gross food import" calculations cover all movement of food commodities into a country, "total food available" represents the amount of food available only for human consumption. This yields very high food import to total food available calculations, some of which exceed 100%.

Highly Import-Dependent Countries

There is a lot of variation among import-dependent countries. Even seemingly 'well off' countries (those with high per capita food supplies) can be just as import-dependent as those with lower per capita food supplies. In addition, some of the most import-dependent actually export more food to the rest of the world than they import (indicated by a "positive" balance of trade)

Country	Per Capita Food Supply (kg/day)	Balance of Trade (exports - imports)
Israel	3611	negative
Portugal	3582	negative
Ireland	3564	negative
Norway	3487	negative
Denmark	3393	positive
Spain	3269	negative
U.A.E.	3211	negative
Saudi Arabia	3082	negative
Malaysia	2881	positive
Djibouti	2321	negative

Top World Agricultural Imports

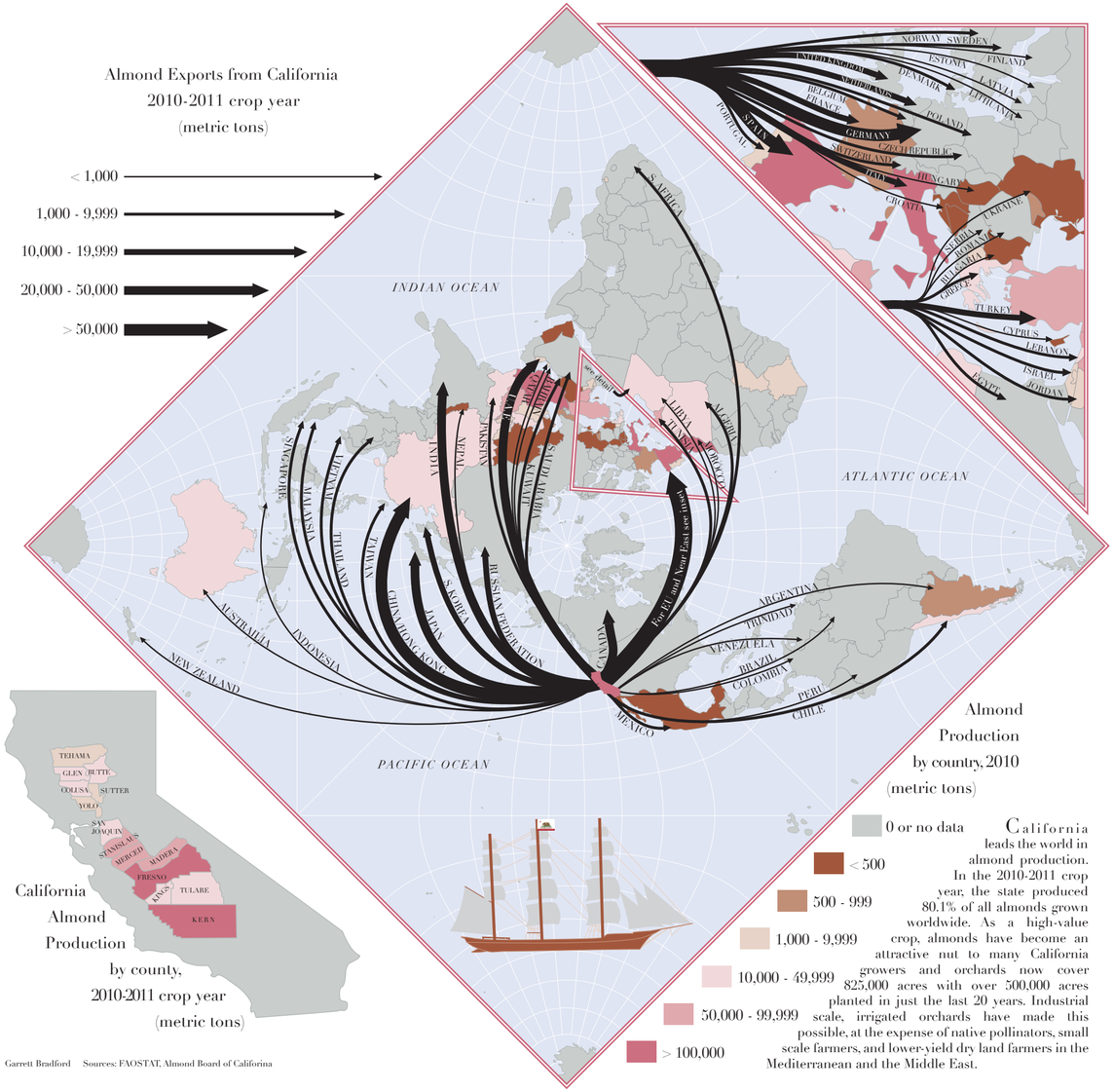


Source: Food and Agriculture Organization, 2005–2007 and 2010. By Chelsea Guerrero

Global Almond Trade and California

Garrett Bradford

Global Almond Trade and California

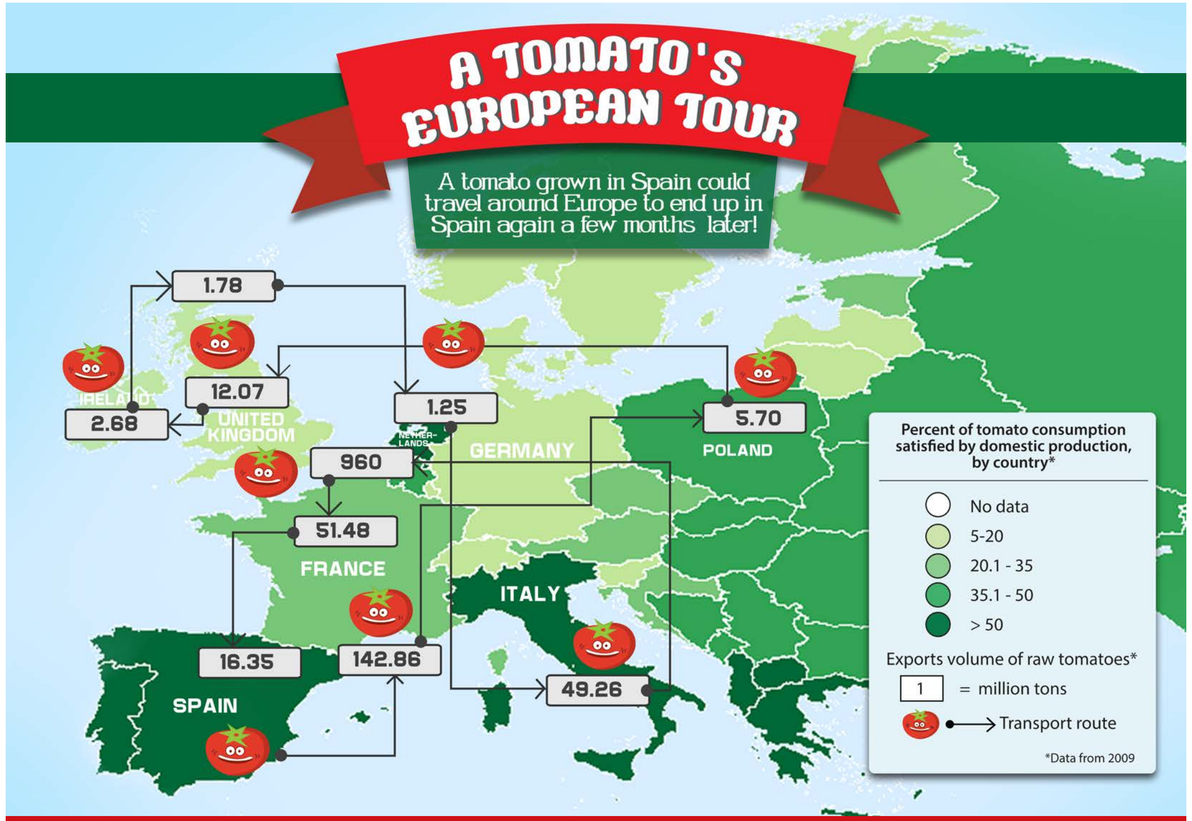


California leads the world in almond production. In the 2010-2011 crop year, the state produced 80.1% of all almonds grown worldwide. As a high-value crop, almonds have become an attractive nut to many California growers and orchards now cover 825,000 acres with over 500,000 acres planted in just the last 20 years. Industrial scale, irrigated orchards have made this possible, at the expense of native pollinators, small scale farmers, and lower-yield dry land farmers in the Mediterranean and the Middle East.

Garrett Bradford Sources: FAOSTAT, Almond Board of California

A Tomato's European Tour

Lucia Argüelles & Jennifer Lara



Differences in climate and consumption patterns make the movement of food a reality in this globalized world. These movements, commonly in form of transboundary imports and exports, have a relevant environmental impact, as well as an economic influence in the countries involved. International trade treaties influence the direction of these transits, often to the detriment of the environment or the poorest countries.

TOMATOES EUROPEAN TOUR

Tomatoes are the most consumed and most produced vegetable within the EU. Tomatoes are consumed throughout the year. Vast amounts of raw tomatoes are transported within the EU borders, as well as across other transnational frontiers.

Some countries import and export raw tomatoes. This is the case of Spain, which is a net exporter but imports raw tomatoes from Morocco and France among others. The reasons behind these imports are diverse (climatic, economical) but mainly political (commercial treaties). In some cases, countries import from and export to another country. This leads to situations like the one reflected by the exports chain in the map. A tomato grown in Spain, could be, conceivably, exported several times and end up in Spain again.

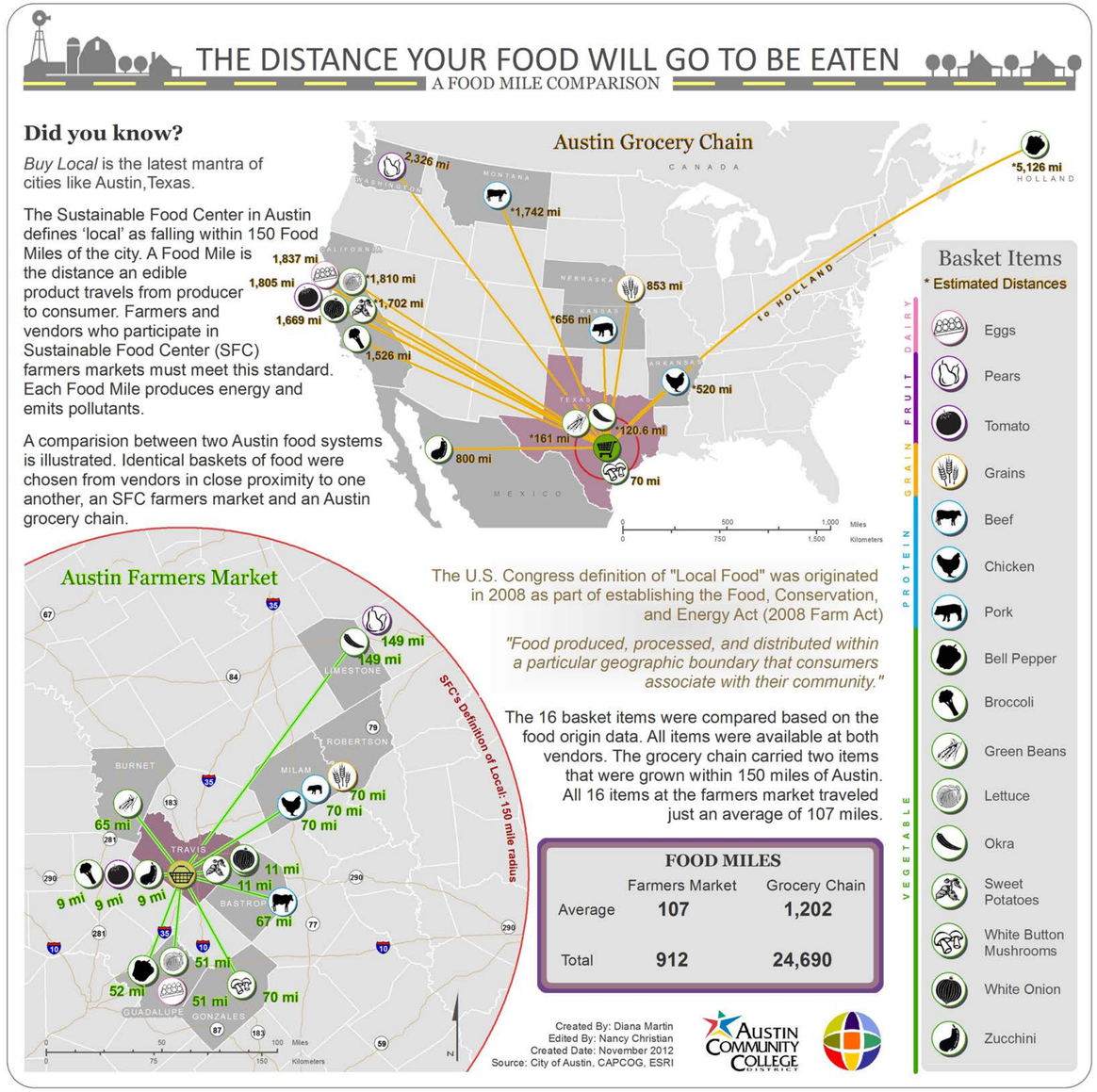
Harm to the environment by air and noise pollution and resource depletion could be reduced by only consuming fruits and vegetables of the season and minimizing transportation distances. These issues are addressed by the Slow Food Movement, which call for a responsible food consumption.

Sources: FAOSTAT (faostat.fao.org)

By Lucia Argüelles (Author, researcher) & Jennifer Lara (Cartographer)

The Distance Your Food Will Go to Be Eaten: A Food Mile Comparison

Diana Martin



A Geography of Illinois Wheat

Sarah Kavage

— next pages —

Fresh Catch: Community Supported Fishery in Massachusetts

Farm to Table: Community Supported Agriculture in Massachusetts

Steven E Silvern & Milan Budhathoki

A Geography of Illinois Wheat

100 years ago, Illinois farmers were some of the country's largest wheat producers. Acreage devoted to wheat has been declining ever since and is now the third most common grain grown in the state, after corn and soybeans.

PRODUCTION

Illinois farmers grow soft red winter wheat. With Illinois' climate, soft red winter wheat can be grown over the winter and spring, with enough time for a soybean crop after the June wheat harvest. Wheat production concentrates in the southern part of the state due to the longer growing season. However, yield and total production vary considerably from year to year.

MARKETING

Farmers have to decide where, when, and how to sell their crop. In general, in areas and times of surplus (in wheat producing areas & just after harvest) prices will be lower. Grain elevators located close to major ports or centers of export or demand will pay higher prices for grain. Many factors complicate that basic equation, such as foreign demand and production, weather, and fuel costs. Wheat can be stored on the farm, sold to a grain elevator, or sold directly to customers. Illinois wheat farmers do not usually store their grain for long after harvest and typically will contract with their local elevator ahead of time to lock in a price for the season's crop.

TRANSPORT

Chicago has historically been a hub for trade, due to its strategic location and early investments in technology (grain elevators, futures trading) and infrastructure (rail, highway, & water).

EXCHANGE

Wheat was one of the original commodities traded on the Chicago Board of Trade, (now the CME Group). The CBOT / CME has always been a major center of the commodities market and one of the largest futures exchanges in the world. Other than the type of wheat futures traded (soft red winter) the CME has little physical or geographic relationship to the wheat grown in Illinois. Physical delivery on a futures contract is rare, with nearly 99 percent of transactions used only for hedging or speculation. Still, farmers, brokers, and grain elevator operatorsbase the price for realwheat on CME prices, putting the CME at the heart of the farming community inIllinois and around the world.

TRUCK (semi)
910 bushels
- Short haul, small volumes
- High carbon, low efficiency
- Cost driven by fuel costs
- Grain for domestic production in Chicago & points east

TRAIN (hopper car)
3,500 bushels
- High fixed costs, low emissions
- Differential pricing structure
- Used to export grain to Asia through Pacific NW ports

BARGE
52,500 bushels
- Long haul, slow
- Lowest emissions
- Seasonal (freezes)
- Mississippi River to gulf ports
- Mostly corporate (ConAgra, ADM, Cargill) grain for export; corporations also own their own barge fleets.

PROCESSING

Wheat that is sold domestically is sold to millers and other food processors, primarily in the Chicago /Great Lakes region and points east. Soft red winter wheat is used in unleavened breads that need fine, low-gluten flour (pastries, crackers, cookies, etc). Soft red winter wheat can be an ingredient in all-purpose flour, but is unsuitable for yeasted breads. Food processing is Illinois' number one "manufacturing" industry, with a large concentration of facilities in the Chicago area.

SEED 2%
FOOD 22%
ANIMAL FEED 23%
EXPORT 28%
END STOCKS (STORAGE) 25%

Soft Red Winter Wheat Use all U.S., 2008–2009 (estimated)

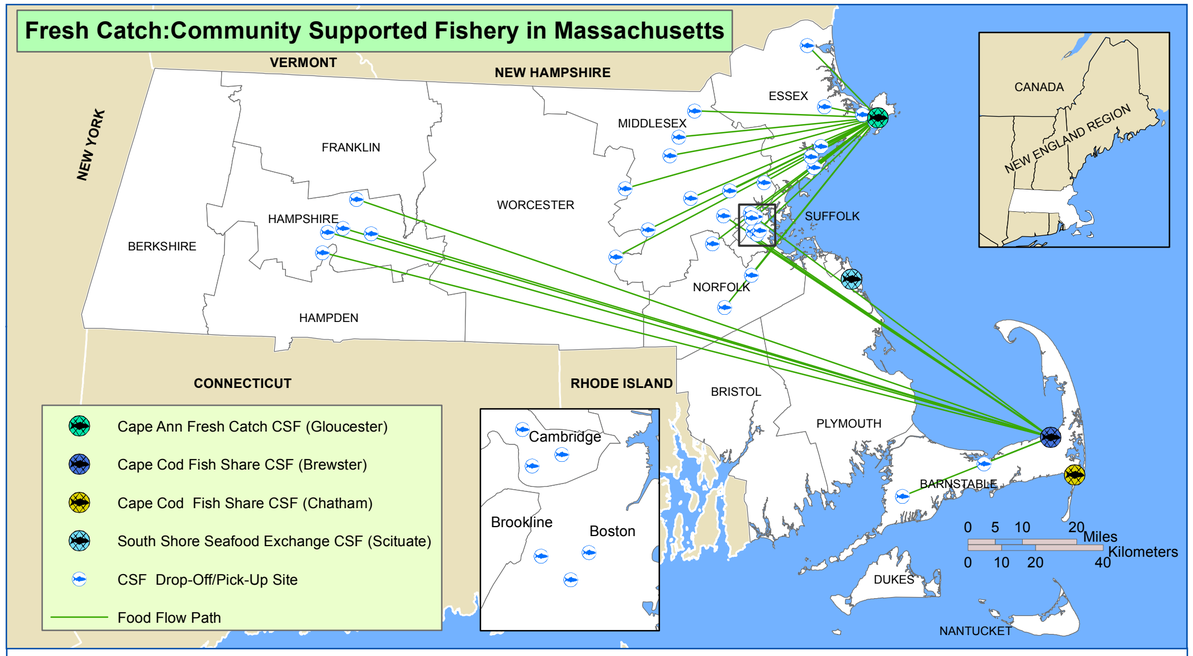
Top counties—total production (millions of bushels) 2005–2006
1.4–2.1 | 2.1–4

Top counties—yield (bushels per acre) 2005–2006
84–90 | 90–94

0 100 km 100 mi

Data from U.S. Department of Agriculture | Sarah Kavage, 2012

Fresh Catch:Community Supported Fishery in Massachusetts



The first Community Supported Fishery (CSF) was formed in Port Clyde, Maine in 2007. Since 2007, the number of CSF has increased to 31 across coastal areas of the United States. CSF, modeled after Community Supported Agriculture, create direct connections between fisherman and consumers. Consumers buy a “share” upfront from the CSF and then receive delivery of a specific quantity of fish on a weekly or bi-weekly basis during fishing season. CSF customers express concern about the sources of their seafood and a desire to support a local, sustainable fishing economy. For fisherman, the benefit is greater revenue and profits through the elimination of wholesalers, auction houses and other middlemen. The map shows the location and delivery network for CSF located in Massachusetts. The Cape Ann Fresh Catch CSF in Gloucester is the largest CSF in the United States with 650 members. The delivery sites on the map include farmers markets and CSA farms.

Why People Start a CSA?

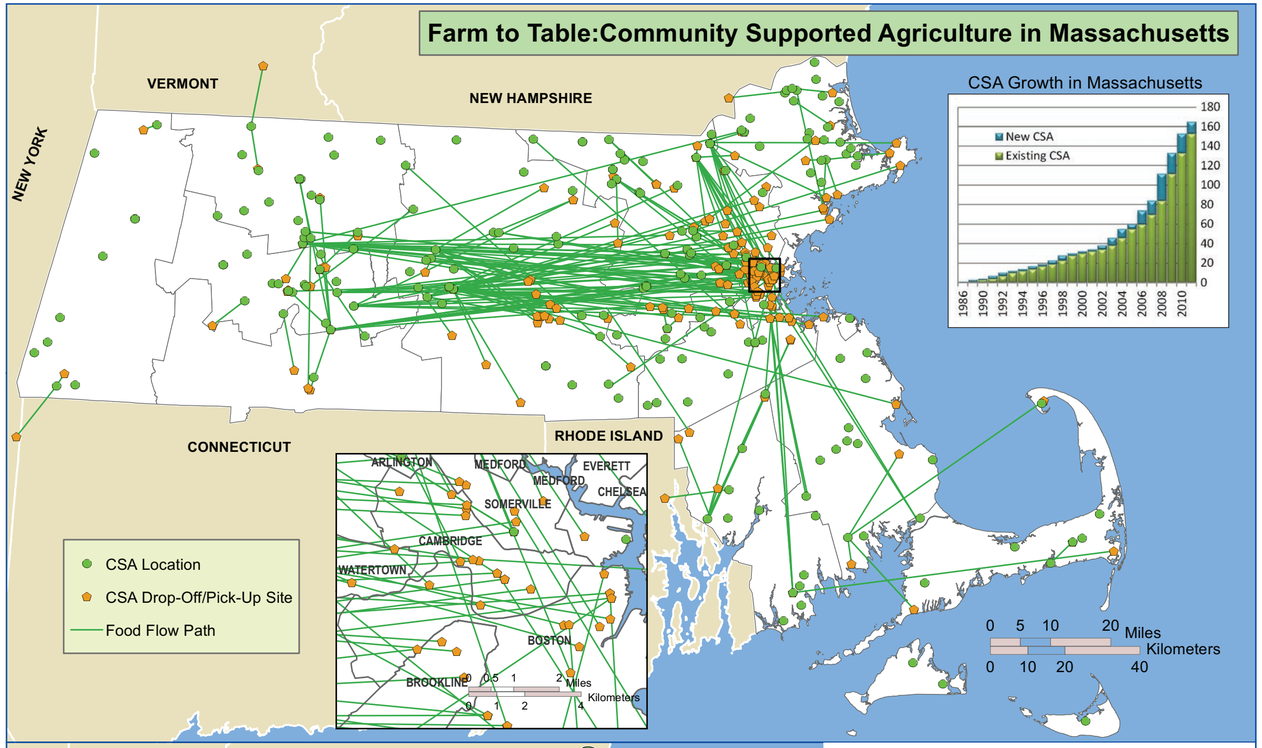
What do CSA Farmers Consider Local?

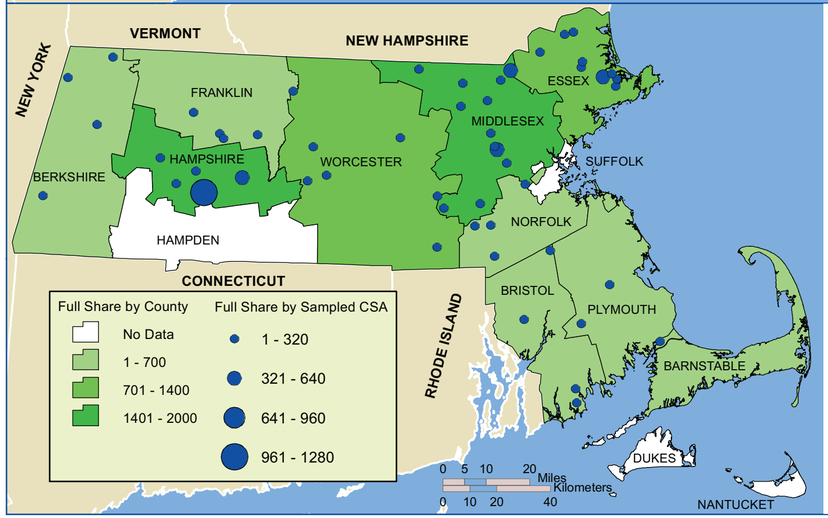
What are Major Challenges Identified by CSA Farmers?

Steven E. Silvern, Ph.D. (Author) and Milan Budhathoki (Researcher and Cartographer)

Data Source:Salem State University Survey of CSAs, December 2011, Northeastern Atlantic Marine Alliance, Local Catch

Farm to Table:Community Supported Agriculture in Massachusetts





Community Supported Agriculture (CSA) in the United States began in Massachusetts in1985. In the CSA model, consumers receive food directly from local farms that produce vegetables, berries and more recently meat, grains and flowers. Mirroring national trends, the number of CSAs in Massachusetts has grown dramatically over the last few years from 74 in 2006 to 165 in 2011. The map above depicts the locations of CSAs in Massachusetts and the distribution network connecting farms to shareholders, showing how food flows across the state in a west to east direction with a focus on the metropolitan Boston region. CSA farmers deliver produce, often boxed, to shareholders at designated drop-off/pick-up sites in the Boston area.

Hampshire and Middlesex Counties stand out as having large clusters of CSAs and the largest number of shareholders. The shareholders pattern depicted on the map to the left may be explained in part by higher levels of income, education and the local culture.

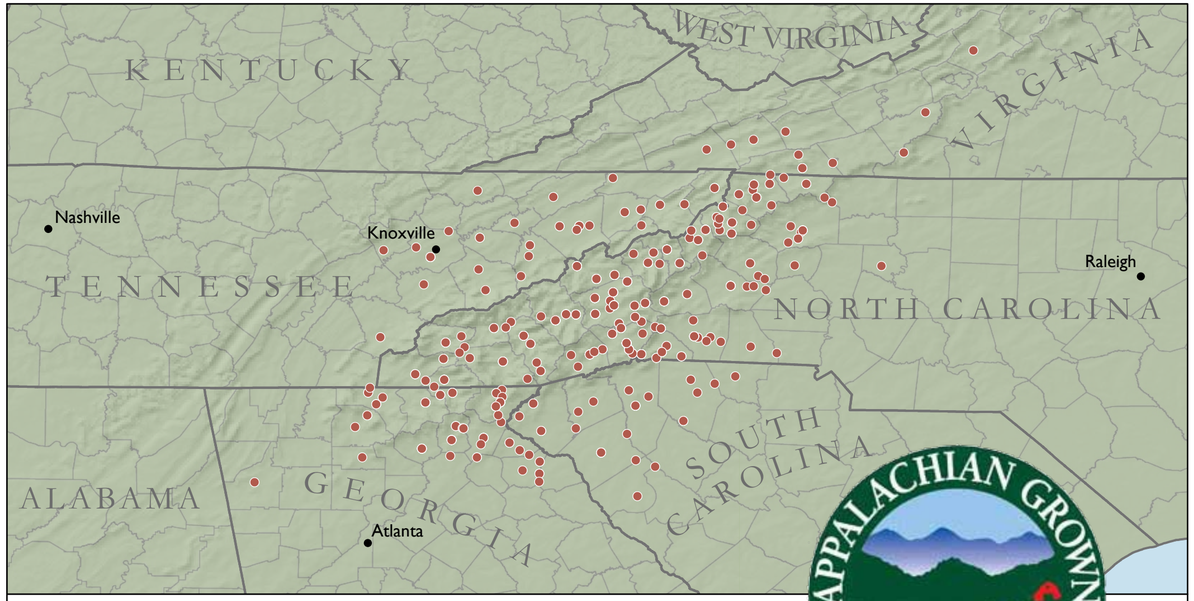
Steven E. Silvern, Ph.D.(Author)
Milan Budhathoki (Researcher and Cartographer)

Data Source:
Salem State University Survey of CSAs, December 2011.
Local Harvest, Northeast Organic Farming Association
Massachusetts Department of Agriculture

Salem State University

Food Labels: Branding Place of Origin

Alicia Fisher, John-Mark Hack, Ryan Cooper, Benjamin Golder



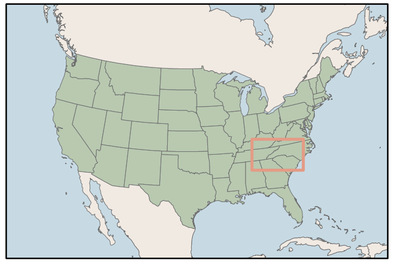
Food Labels: Branding Place of Origin

In the U.S., state-sponsored agricultural marketing programs have given rise with the increase in consumer demand for high-quality, value-added products. Since the 1930's, states have been involved in marketing and differentiating agricultural products, such as Washington apples, Idaho potatoes, and Georgia peaches. By the 2000's a surge of states launched agricultural state-branding programs, with as many as 48 states today using a logo to brand state-wide agriculture.

Outside of state political boundaries, a new wave of grassroots activism across the U.S. has resulted in the growth of community-based organizations. These strategic, regional networks have formalized to organize and to mobilize resources to address economic, social, and environmental issues. Food system localization and sustainability are now central goals for many organizations of the alternative agriculture movement.

Appalachian Sustainable Agriculture Project (ASAP) is one example of the grassroots efforts to localize food through a network of producers, food processors, direct marketers, food servicers (restaurants, schools), agri-tourism, and retailers. ASAP was founded in 2002 and designed a branding and certification program marketing local foods, local farms, and healthy communities and currently serves 700+ members (●). ASAP's label is first-party certified because ASAP develops its own rules and assures consumers that it meets its own claims. The ASAP label signifies food origin--farm products are grown or raised in Western North Carolina and the Southern Appalachian Mountains.

Sources: ASAP, US Census 2010, Natural Earth



Alicia Fisher, Author and Researcher
John-Mark Hack, Researcher
Ryan Cooper, Cartographer
Benjamin Golder, Cartographer

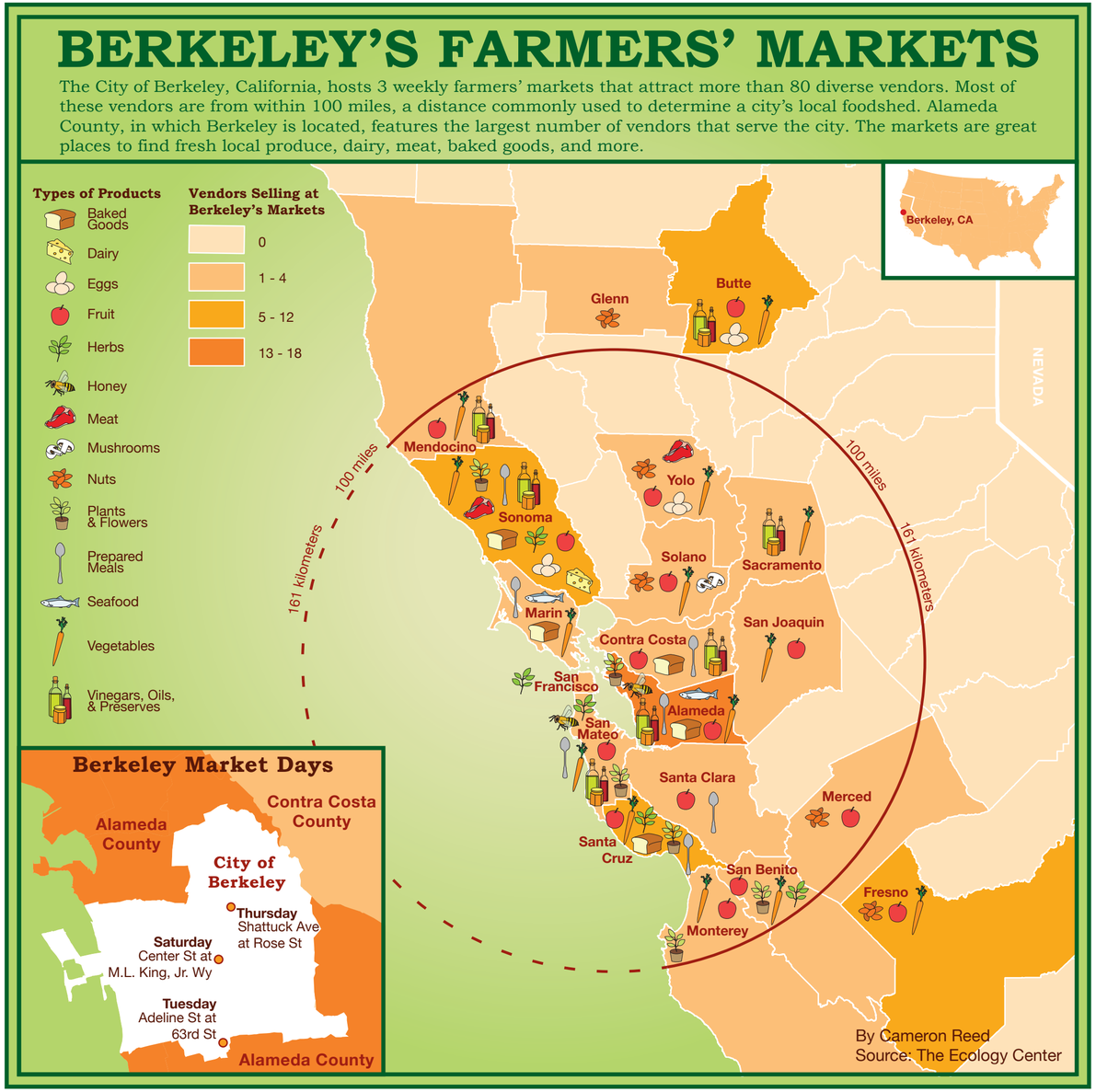
Berkeley's Farmers' Markets

Cameron Reed

— next pages —

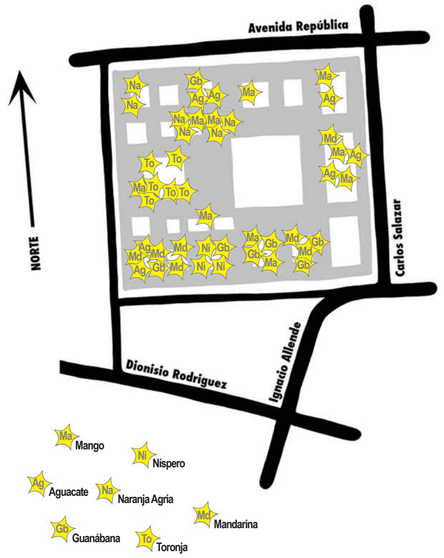
Fallen Fruit

David Burns, Matias Viegener, Austin Young



Hospicio Cabañas, founded in 1791
in the center of colonial Guadalajara, Mexico,
was a hospital for the people and a home to orphans,
the elderly, the poor and handicapped.

All of its many courtyards are planted with ever-bearing
fruit trees to feed the sick and hungry.



FALLEN FRUIT de HOSPICIO CABAÑAS

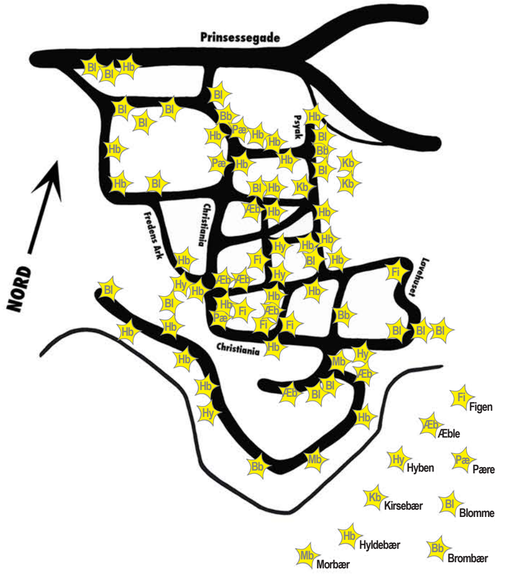
este mapa es una plantilla para el uso público. ¡conozca sus frutas!

GUADALAJARA, MEXICO

FALLEN FRUIT FRA CHRISTIANIA

for more information, besøg fallenfruit.org. lær dine frugter at kende!

COPENHAGEN, DENMARK



Christiana, on the outskirts of Copenhagen,
is part of a decommissioned military base. In the
early 1970s, socialist radicals declared the area free
from government control and seceded
from the country of Denmark.

Fallen Fruit

FALLEN FRUIT
PUBLIC FRUIT MAPS
by David Burns, Matias Viegener and Austin Young

Fallen Fruit's Public Fruit Maps create a treasure hunt
for public fruit that grows in, or hangs over, public space.
These three maps are walking guides to neighborhoods
that demonstrate ideas of goodness, generosity and abun-
dance; free fruit lines the streets of the neighborhoods in
the most populous cities of the world.

These three maps have another history:
they reference social spaces born from communal ideals.
Sharing has always been considered a way of life
in these magical neighborhoods.

There are more maps at fallenfruit.org

please respect private property

take only what you need

say 'hi' to strangers

share your food

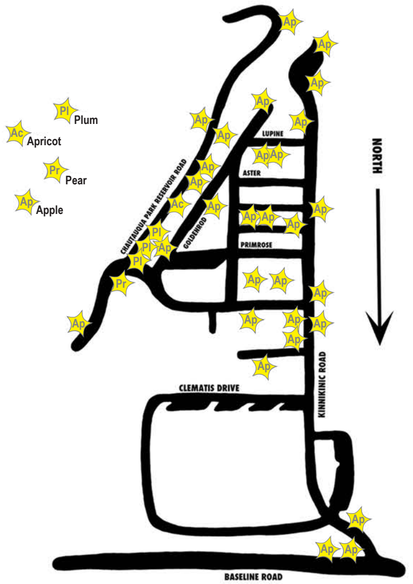
take a friend

go by foot

FALLEN FRUIT OF CHAUTAUQUA

more information at fallenfruit.org. learn your fruits!

BOULDER, COLORADO



Chautauqua is just outside of Boulder, Colorado. A summer
retreat for educated women in the 1890s, it became part
of the largest educational movement in the history
of the United States of America.

FOOD : *security*

All sorrows are less with bread.

— Miguel de Cervantes Saavedra

Across language, class, religion, and race, food is a connection we all share. For some, eating is a benign daily ritual. For others it's a point of activism. For still others it's an expression of sensuality or a touchstone of identity. For too many, food is a point of contention. Nearly nine hundred million people in the world suffer from malnutrition and hunger, 200 million of them children.[1]

This chapter's maps explore a range of issues tied to food security, or access to adequate food. If I'm food secure, I don't have to think about where my next meal is going to come from, and face no challenges in procuring sustenance. If I'm food insecure, I don't have enough food to eat, or perhaps I must rely on emergency food resources, lack funds to purchase food, or don't have easy access to food shops. This chapter maps issues of food security, posits some potential solutions to food insecurity, and shines light on organizations working for food justice.

As we barrel towards a projected nine billion people in the world by 2050, pundits and policymakers continue to ask whether food production can keep pace with our growing numbers and changing food preferences.[2] Time will tell. One truth is plain: confronting these challenges, and keeping our world healthy and fed, will require serious engagement with the interrelations between class, history, economic development, and the health of our ever-growing population.

Global Imbalance of the Availability of Nutritious Food

Lucia Argüelles & Jennifer Lara

Global Imbalance of the Availability of Nutritious Food

While in the rich countries obesity can reach 50% prevalence, the Global South still faces the scourge of famine. Undernourishment and obesity are caused by the inefficiency of the global mechanisms producing and distributing food. Both phenomena have disastrous consequences for the societies who suffer from them.

HUNGER

An adequate nutrition is essential for economic growth, good health and physical and cognitive development. It requires a diverse diet including staple foods, vegetables, fruits and proteins.

Most of the world's undernourished people live in developing countries. Two thirds live in just seven countries: Bangladesh, China, the Democratic Republic of the Congo, Ethiopia, India, Indonesia and Pakistan.

The reasons behind hunger are historical and political. It is well known that hunger is not caused by food shortage: yearly food production could feed 12,000,000,000 people.

SOME EXAMPLES OF DIFFERENCES ON FOOD CONSUMPTION AMONG COUNTRIES (kg/person*year)

Barley	Saudi Arabia 208.4	Ethiopia 16.9
Oranges	Japan 11.6	Philipines 1.5
Tomatoes	Australia 26.5	Madagascar 2.3
Cheese	Uruguay 11.3	Namibia 1
Poultry Meat	U.S.A 49.4	Gambia 3.6
Bovine Meat	Chile 20.7	Guatemala 5.7

OBESITY

On the other hand, obesity is a result of diets which are characterized by energy-dense, nutrient poor foods that are high in fat, sugar and salt.

Obesity is a major contribution to heart disease, stroke, diabetes and cancer. It is a well-known phenomenon in developed countries which is increasing in the developing world.

Worldwide obesity has more than doubled since 1980. There are more obese adults in the world today than undernourished.

An unregulated food market with cheap unhealthy food and an uncontrolled marketing industry stimulating consumption are some of the reasons behind obesity.

Undernourishment* (%)	Obesity** (%)
5 - 20	5 - 10
20.1 - 35	10.1 - 25
35.1 - 50	25.1 - 40
> 50	> 40

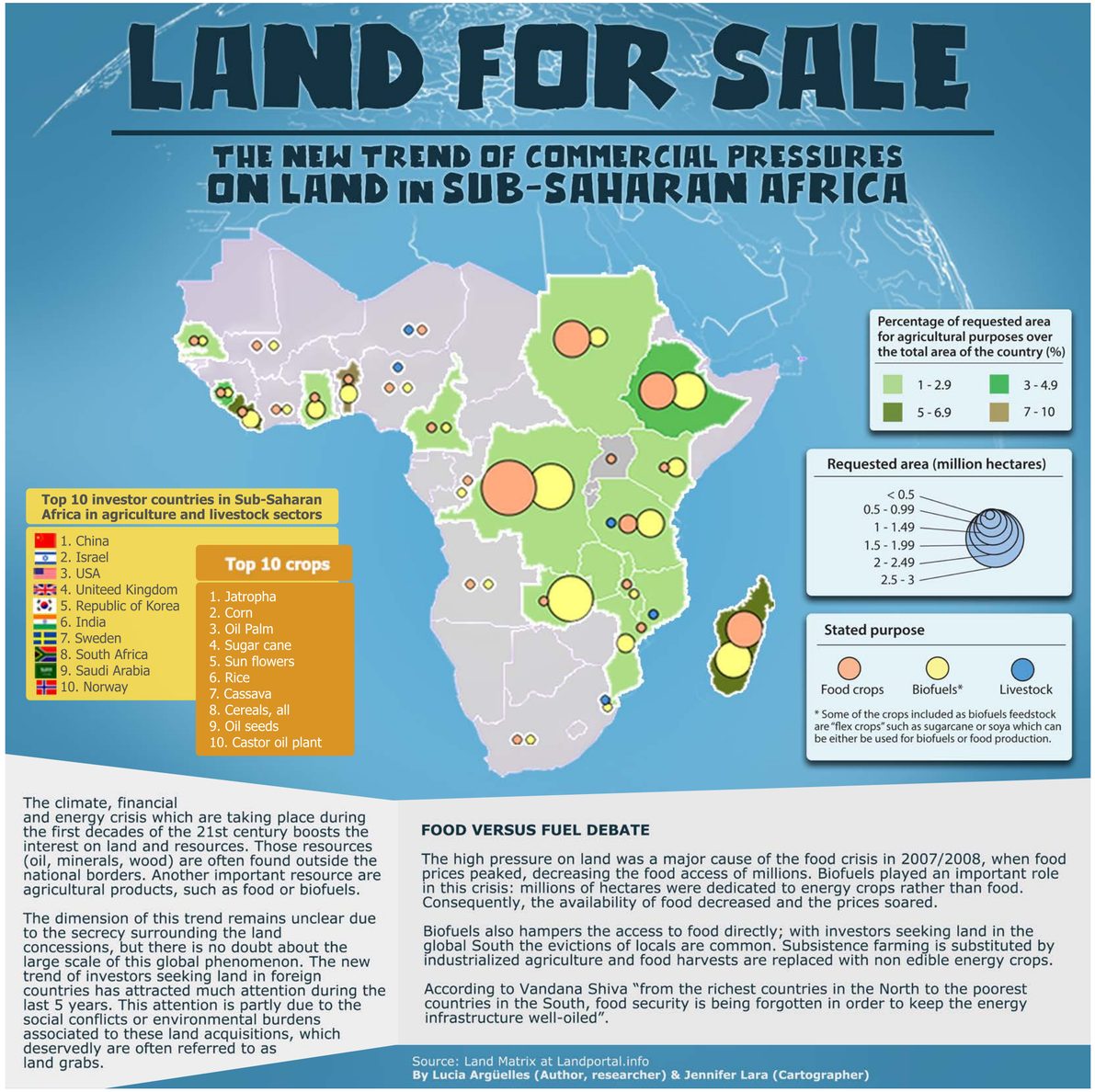
* Prevalence of undernourishment in total population (2005-07).
** Prevalence of Obesity (BMI ≥ 25 kg/m) in total adult population (aged 15+) (2010).

Sources: Undernourishment data from The state of food insecurity in the world (FAO, 2009). Obesity data from WHO

By Lucia Argüelles (Author, researcher) & Jennifer Lara (Cartographer)

Land For Sale: The New Trend of Commercial Pressures on Land in Sub-Saharan Africa

Lucia Argüelles & Jennifer Lara

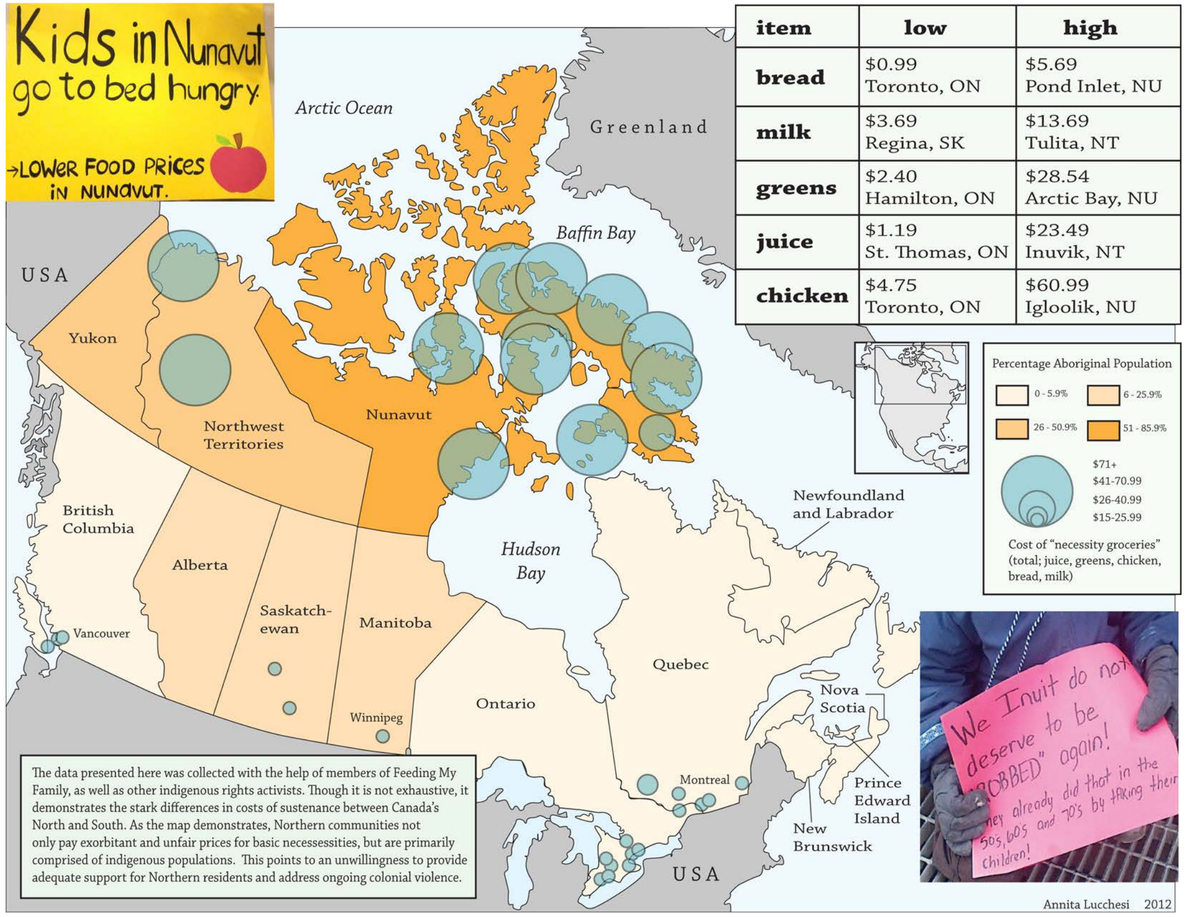


Threats to Indigenous Food Traditions in North America

Annita Lucchesi

Food Insecurity & Indigenous Communities in Canada's North

Though indigenous peoples have fought for equitable access to healthy foods since the imposition of colonial rule, 2010 was a landmark moment in contemporary struggles of this nature for indigenous Northern communities. The replacement of existing Food Mail programs with Nutritions North, a subsidy program, had many worried about escalating food prices, and a year later, a United Nations Right to Food Envoy named the conditions in which Northern Natives were living "desperate." Soon after, Northern indigenous people created what is now the internationally-known grassroots organization Feeding My Family, which is dedicated to protesting food insecurity and hunger in Northern communities.



item	low	high
bread	$0.99 Toronto, ON	$5.69 Pond Inlet, NU
milk	$3.69 Regina, SK	$13.69 Tulita, NT
greens	$2.40 Hamilton, ON	$28.54 Arctic Bay, NU
juice	$1.19 St. Thomas, ON	$23.49 Inuvik, NT
chicken	$4.75 Toronto, ON	$60.99 Igloolik, NU

The data presented here was collected with the help of members of Feeding My Family, as well as other indigenous rights activists. Though it is not exhaustive, it demonstrates the stark differences in costs of sustenance between Canada's North and South. As the map demonstrates, Northern communities not only pay exorbitant and unfair prices for basic necessessities, but are primarily comprised of indigenous populations. This points to an unwillingness to provide adequate support for Northern residents and address ongoing colonial violence.

Canadian Food Networks: Propagating the Food Movement

Charles Z Levkoe & Claudia Dávila

CANADIAN FOOD NETWORKS

Propagating the Food Movement

CHARLES Z LEVKOE (Author, Researcher) & CLAUDIA DÁVILA (Illustrator, Designer)

Like a rhizome, Canada's food networks are heterogeneous, decentralized, and deeply interconnected. The networks demonstrate collaboration while encouraging diverse inter-related strategies that push the logics of system transformation. The map highlights some of these food initiatives and the regional organizations that are working to create connections across issues, sectors, and scales. Together, they are propagating a more just, sustainable, and democratic food system.

REGIONAL ORGANIZATIONS

The Northern Food Network (est. 2010) supports and connects groups in northern and remote communities through sharing information and influencing policy.

Food Matters Manitoba (est. 2006) facilitates a provincial-level food charter, organizes and participates in multiple regional networks, stimulates policy change, coordinates regional programming.

Growing Food Security in Alberta (est. 2003) focuses on community-level actions, facilitates participatory conversations among rural populations.

Food Secure Saskatchewan (est. 2006) stimulates policy change, encourages a comprehensive, integrated food security strategy.

The British Columbia Food Systems Network (est. 1999) stimulates policy change, supports bioregional and thematic conversations, integrates Indigenous food sovereignty.

REGIONAL ORGANIZATIONS

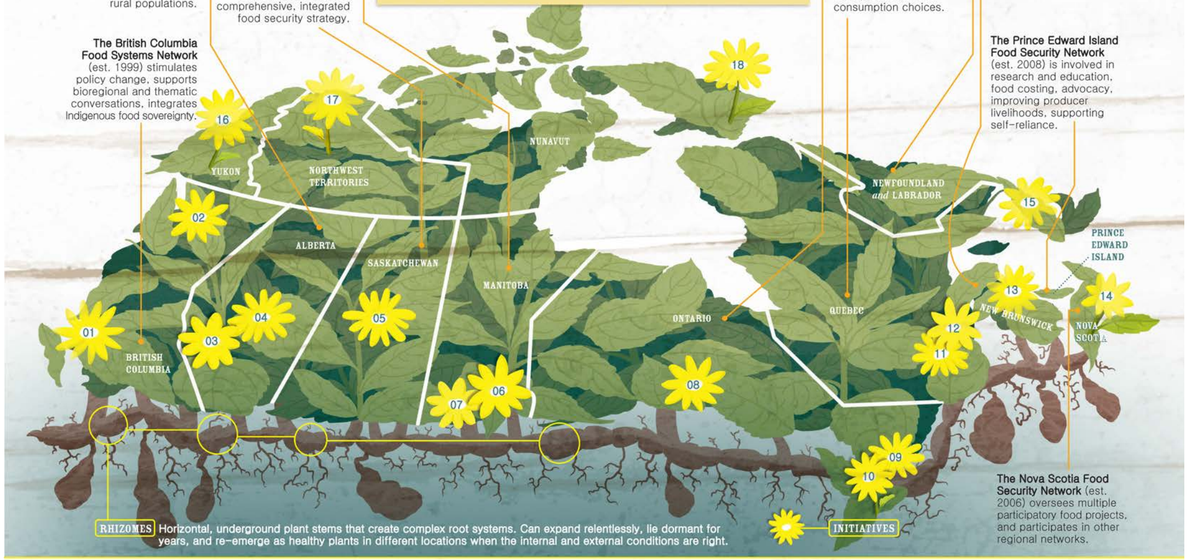
Sustain Ontario: The Alliance for Healthy Food and Farming (est. 2008) facilitates working groups, stimulates policy changes, coordinates meetings and events.

The Food Security Network of Newfoundland and Labrador (est. 1998) is involved in advocacy, consultations, collaborative projects, public awareness and education.

La Coalition pour la souveraineté alimentaire (est. 2010) promotes policies and activities that further the self-determination of food production and consumption choices.

The New Brunswick Food Security Action Network (est. 2010) facilitates networking related to research, education and community engagement.

The Prince Edward Island Food Security Network (est. 2008) is involved in research and education, food costing, advocacy, improving producer livelihoods, supporting self-reliance.



RHIZOMES Horizontal, underground plant stems that create complex root systems. Can expand relentlessly, lie dormant for years, and re-emerge as healthy plants in different locations when the internal and external conditions are right.

INITIATIVES

The Nova Scotia Food Security Network (est. 2006) oversees multiple participatory food projects, and participates in other regional networks.

01 FarmFolk/CityFolk
VANCOUVER, BRITISH COLUMBIA Supports community-based sustainable food systems by protecting food-growing lands, public education, advocacy, and alliance building

02 Healthy Eating and Active Living (HEAL)
NORTHERN BRITISH COLUMBIA Combats chronic disease through network building in the North

03 Hinton Community Garden Society
HINTON, ALBERTA Runs an all-season, organic community garden and two re-purposed greenhouses

04 Sustainable, Equitable, Local and Regional System for Food CENTRAL ALBERTA Maps food resources to build an action plan for a more equitable and environmentally sound food system

05 Muskoday Organic Growers Co-op MUSKODAY FIRST NATION, SASKATCHEWAN Works with youth and elders to reclaim First Nations food sovereignty by emphasizing indigenous agricultural heritage

06 The North End Food Security Network
WINNIPEG, MANITOBA Supports existing initiatives and provides education and resources to low income communities

07 Harvest Moon Society
CLEARWATER, MANITOBA Supports rural environments and sustainable agriculture through an annual festival, a local food-buying club, and a rural learning centre

08 Eat Local Sudbury Coop
SUDBURY, ONTARIO Operates a retail outlet and community working space to build relationships between eaters and producers

09 The Stop Community Food Centre
TORONTO, ONTARIO Offers a comprehensive approach to addressing food issues through food access, food skills, education, and engagement

10 FarmStart
GUELPH, ONTARIO Supports the next generation of farmers to develop economically viable and ecological agricultural enterprises, through training, market research, and resources

11 Santropol Roulant
MONTREAL, QUEBEC Operates a community hub providing healthy food using urban agriculture

12 Équiterre
MONTREAL, QUEBEC Encourages ecological and equitable choices through ecological horticulture, transportation, fair trade, and responsible consumption

13 Landless Gardeners
FREDERICTON, NEW BRUNSWICK Cultivates organic vegetables communally on donated lawns of private landowners

14 The Ecology Action Centre's Food Action Committee
HALIFAX, NOVA SCOTIA Increases collective food access and self-reliance though research and action projects

15 Root Cellars Rock!
NEWFOUNDLAND AND LABRADOR Celebrates the province's unique agricultural heritage by storing the harvest in traditional ways

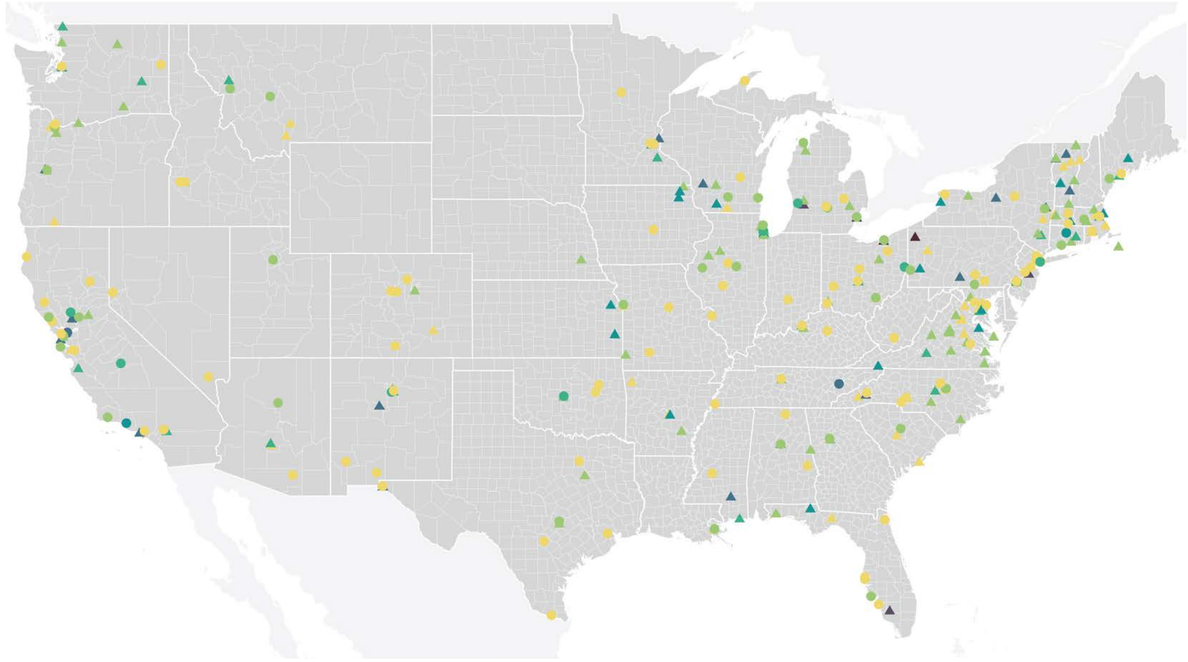
16 Yukon Hospital Traditional Diet Program
WHITEHORSE, YUKON Works with local hunters, outfitters, and conservation officers to provide traditional foods to Indigenous patients

17 Inuvik Community Greenhouse INUVIK, NORTHWEST TERRITORIES Runs a community hub providing fresh ecological produce along with events, information, and resources

18 Nunavut Country Food Market IQALUIT, NUNAVUT Connects producers with consumers by giving hunters a venue to sell their catch directly to other community members

Which Came First, Food Policy or Food Hub?

Alicia Fisher, Gabriele Ciciurkaite, Benjamin Golder



Which Came First, Food Policy or Food Hub?

The map illustrates the spaces of influence where food policy councils and local food hubs operate in potential cooperation or separation. Four spatial patterns emerge: dense council-hub areas, sparse council-hub areas, saturated council areas, or saturated hub areas.

The first Food Policy Councils (FPC) in the U.S. started roughly 30 years ago, while most councils have popped up in the last decade. Food Policy Councils are coordinated through state or local government or grassroots efforts and collaborate with a range of stakeholders to shape policy and to increase access to healthy food in local communities. One of the priority areas in FPC work is to expand the local food hub network.

A food hub as defined by the United States Department of Agriculture (USDA) is a centrally located facility with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of locally/regionally produced food products. A hub-like space for vendors to sell products can be traced through the physical market structures in the U.S. that date back to the 19th century and are still in operation today. Today, this space is both physical and virtual and includes a range of strategies to distribute local foods. Classifying a Food Hub is part of the more recent and growing interest in "Know Your Farmer, Know Your Food."

Alicia Fisher, Author and Researcher
Gabriele Ciciurkaite, Researcher
Benjamin Golder, Illustrator

Sources: Community Food Security Coalition, USDA, US Census 2010

Working For Justice Along the Food Chain

John de Goede & Alex Tarr

WORKING FOR JUSTICE ALONG THE FOOD CHAIN

802 UNION locals organize and represent food workers. They negotiate for good wages and safe, healthy, and fair working conditions from fields to restaurants.

30 ADVOCACY GROUPS provide a combination of direct services, legal support, and political support for good public policies that affect food workers.

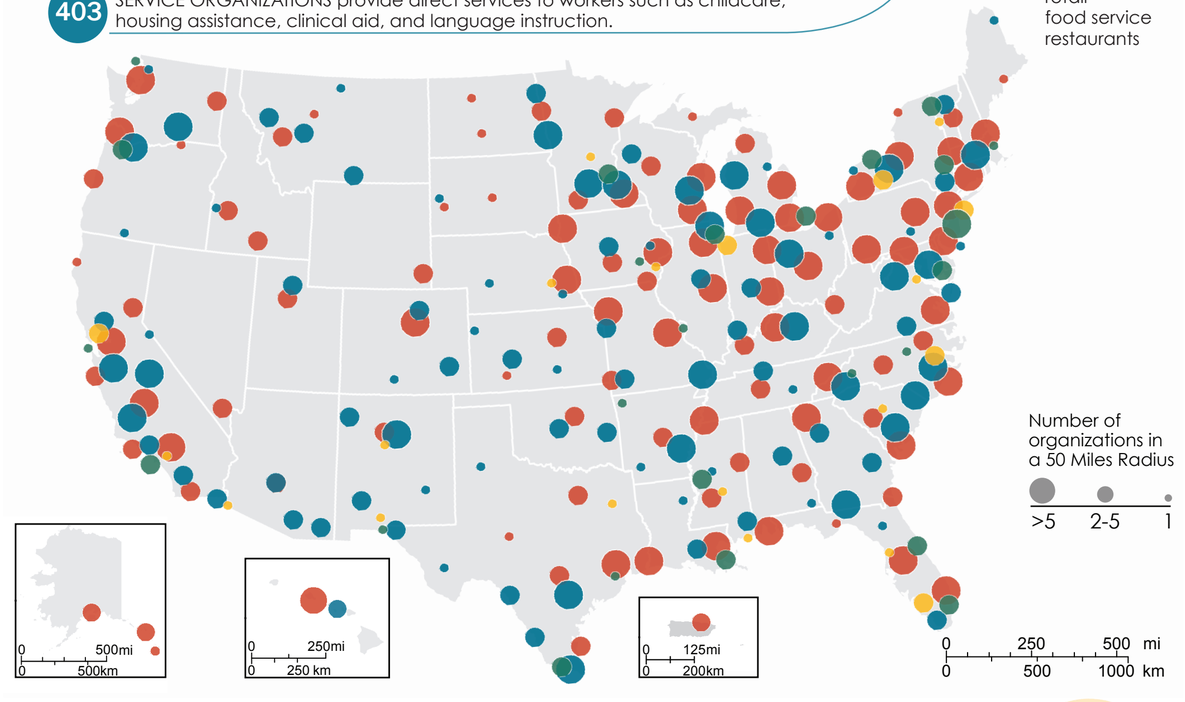
77 WORKER CENTERS support low-income and immigrant workers with organizing, education, and advocacy. Often doing so where traditional unions cannot.

403 SERVICE ORGANIZATIONS provide direct services to workers such as childcare, housing assistance, clinical aid, and language instruction.

There are nearly 20 million food workers in the US.

1,312 total organizations interact regularly with workers in:

agriculture
processing
transportation
distribution
retail
food service
restaurants



FOOD CHAIN WORKERS ALLIANCE
www.foodchainworkers.org

The Food Chain Workers Alliance is a coalition of worker-based organizations whose members plant, harvest, process, pack, transport, prepare, serve, and sell food, organizing to improve wages and working conditions for all workers along the food chain.

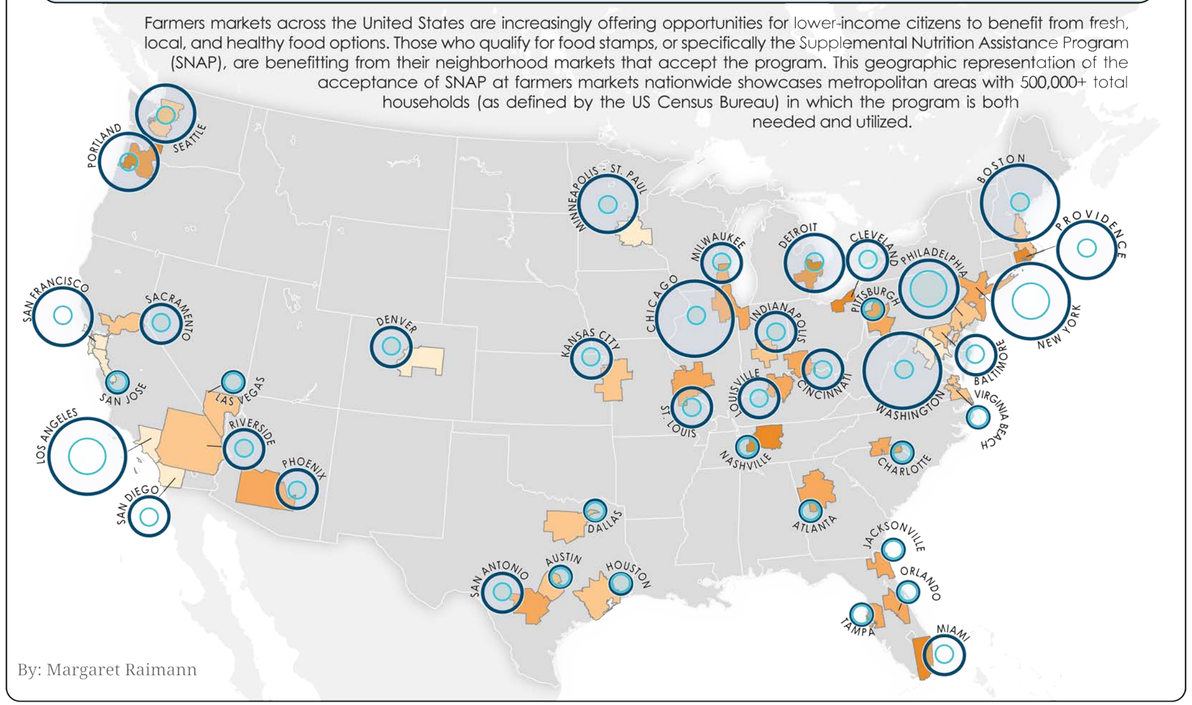
a full report on food worker organizations is availabe at www.foodchainworkers.org
sources: *Food Chain Worker Alliance Research*
catography & design by JOHN DE GOEDE with ALEX TARR

Farmers Markets: Accessible to All?

Margaret Raimann

FARMERS MARKETS: ACCESSIBLE TO ALL?

Farmers markets across the United States are increasingly offering opportunities for lower-income citizens to benefit from fresh, local, and healthy food options. Those who qualify for food stamps, or specifically the Supplemental Nutrition Assistance Program (SNAP), are benefitting from their neighborhood markets that accept the program. This geographic representation of the acceptance of SNAP at farmers markets nationwide showcases metropolitan areas with 500,000+ total households (as defined by the US Census Bureau) in which the program is both needed and utilized.



By: Margaret Raimann

METROPOLITAN AREAS WITH HIGHEST SNAP ENROLLMENT (by total households)

1	DETROIT	16.5% households enrolled in SNAP	20.8% markets accept SNAP
2	PORTLAND	15.8% households registered in SNAP	35.4% markets accept SNAP
3	PROVIDENCE	15.1% households registered in SNAP	20% markets accept SNAP
4	CLEVELAND	14% households registered in SNAP	34% markets accept SNAP
5	NASHVILLE	13.9% households registered in SNAP	5% markets accept SNAP
6	MIAMI	13.8% households registered in SNAP	3% markets accept SNAP

Total Farmers Markets
Total Farmers Markets Accepting SNAP

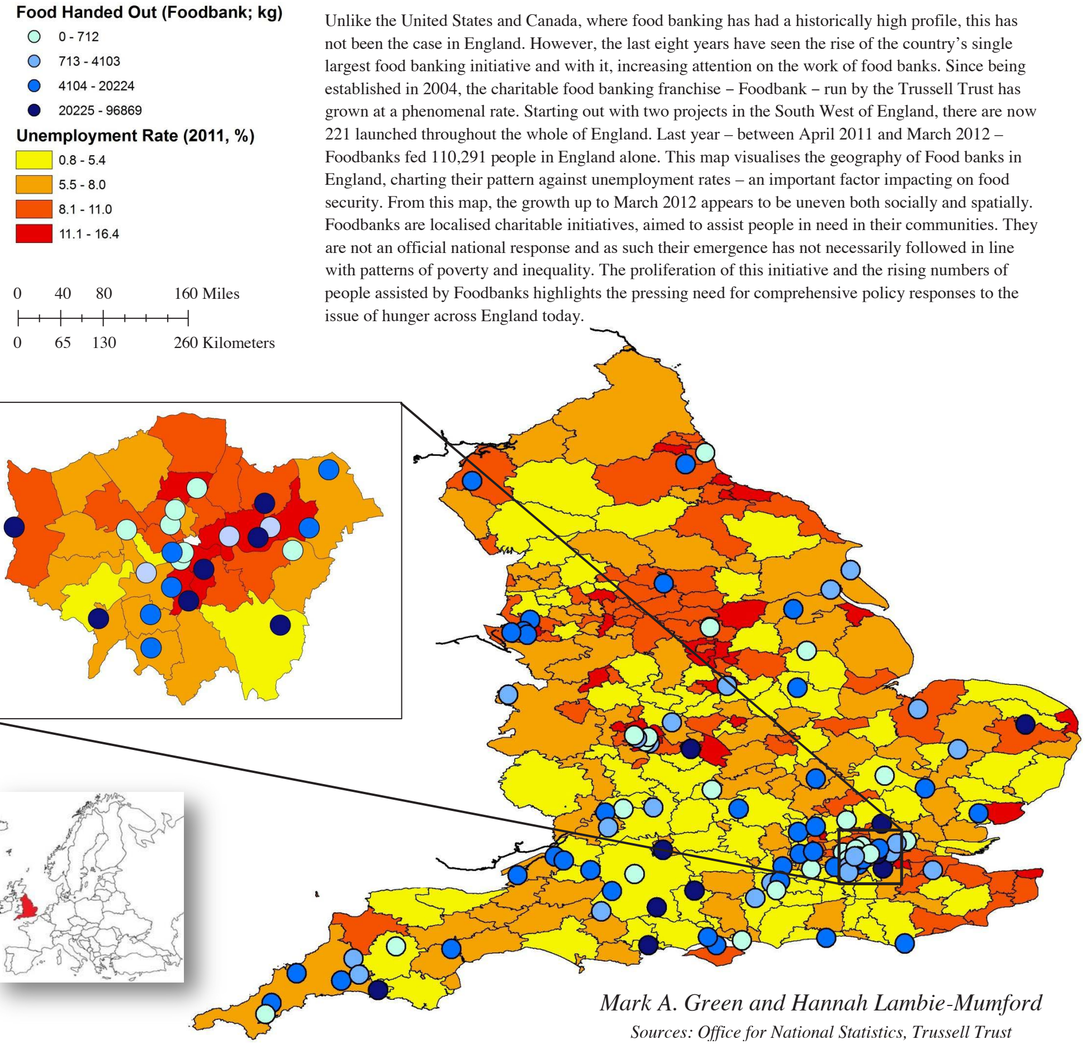
0–29.9 30.0–59.9 60.0–99.9 100.0–185.0

Households Enrolled In SNAP by Metropolitan Area

- 4.0 – 7.3%
- 7.4 – 10.7%
- 10.8 – 12.9%
- 13.0 – 16.5%

(as percentage of total households)

The rise of Foodbanks in England



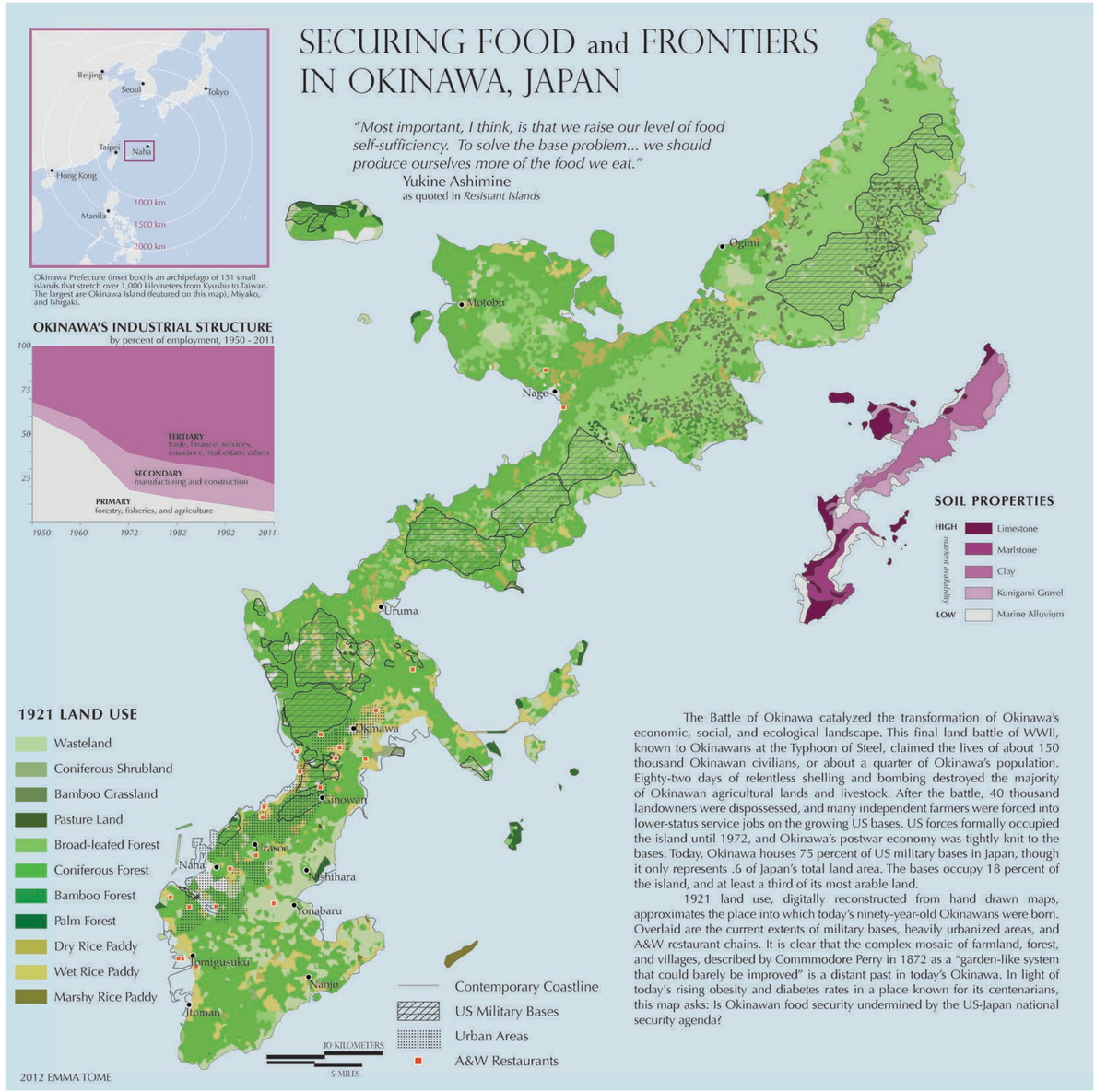
Unlike the United States and Canada, where food banking has had a historically high profile, this has not been the case in England. However, the last eight years have seen the rise of the country's single largest food banking initiative and with it, increasing attention on the work of food banks. Since being established in 2004, the charitable food banking franchise – Foodbank – run by the Trussell Trust has grown at a phenomenal rate. Starting out with two projects in the South West of England, there are now 221 launched throughout the whole of England. Last year – between April 2011 and March 2012 – Foodbanks fed 110,291 people in England alone. This map visualises the geography of Food banks in England, charting their pattern against unemployment rates – an important factor impacting on food security. From this map, the growth up to March 2012 appears to be uneven both socially and spatially. Foodbanks are localised charitable initiatives, aimed to assist people in need in their communities. They are not an official national response and as such their emergence has not necessarily followed in line with patterns of poverty and inequality. The proliferation of this initiative and the rising numbers of people assisted by Foodbanks highlights the pressing need for comprehensive policy responses to the issue of hunger across England today.

Mark A. Green and Hannah Lambie-Mumford

Sources: Office for National Statistics, Trussell Trust

Securing Food and Frontiers in Okinawa, Japan

Emma Tome

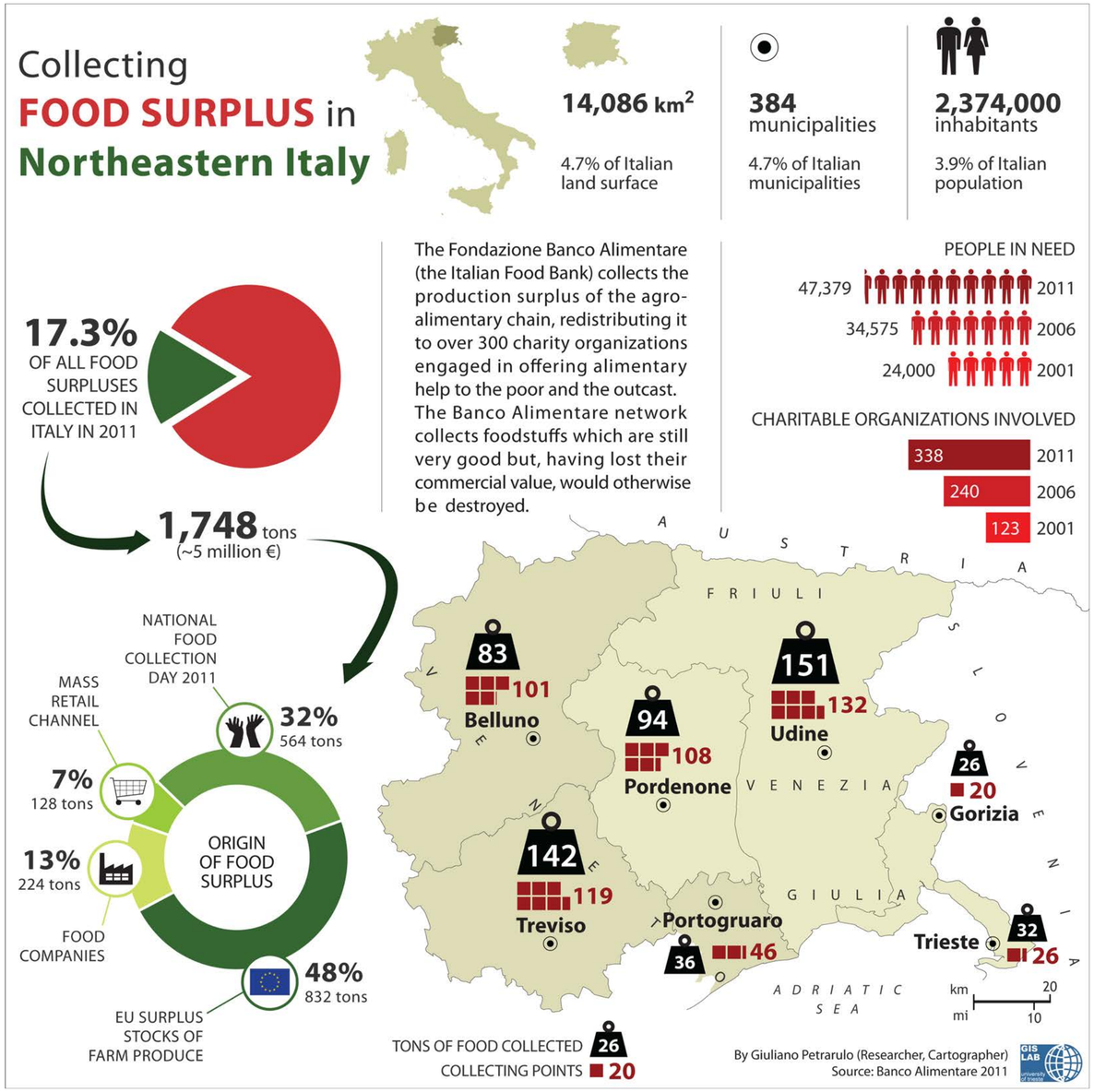


Giuliano Petrarulo

— next pages —

Another Pampa Is Possible!!!

Iconoclasistas



iconoclasistas

In 2008 we began to organize **collective mapping workshops**, encouraging collaborative work on maps and cartographies by designing and releasing a series of tools that make it possible to share knowledge that can then be used for the critical visualization of the most pressing local problems.

COLLECTIVE MAP* OF THE ARGENTINE HEART OF THE SOY MODEL (2010)

ANOTHER PAMPA IS POSSIBLE!!!

Sickness, desertification, water contamination and wealth for a select few, in a region that contains more than 50% of the Argentine population and that is uniting to resist "soy-ization"

More than half of the arable land in Argentina is planted exclusively with transgenic soy due to high profit margins driven by international demand. The profits generated from soy cultivation benefit only transnational agribusinesses, large producers, oil companies and producers of biodiesel and livestock feed (joined as the Sociedad Rural Argentina, Confederaciones Rurales Argentinas, etc.) who together own 78% of the land. They exploit a rural labor force that is the worst paid and is subject to appalling working conditions (of the 1.3 million persons who work in these fields only 325,000 are not in debt). The concentration of land into a few hands has meant that in the last ten years, a great number of people have been uprooted from their land and forced to migrate to miserable shantytowns in urban centers.

In resistance to this model of mono-culture, contamination and the placing at risk of both food sovereignty and small producers, the actions of indigenous peoples and campesinos stand out. These include the Campesino Movement of Santiago del Estero (MOCASE-VC), the United Campesino Organization of Northern Córdoba (APENOC), the Traslasierra Campesino Union (UCATRAS), the Western Mountain Campesino Union (UCOS) and the Campesino Union of the North (UCAN), as well as dozens of neighborhood groups organized against crop dusting. Collectively, they struggle to create another way of life through organization and emancipatory practices.

Mercosur's monoculture

Food ≠ gasoline

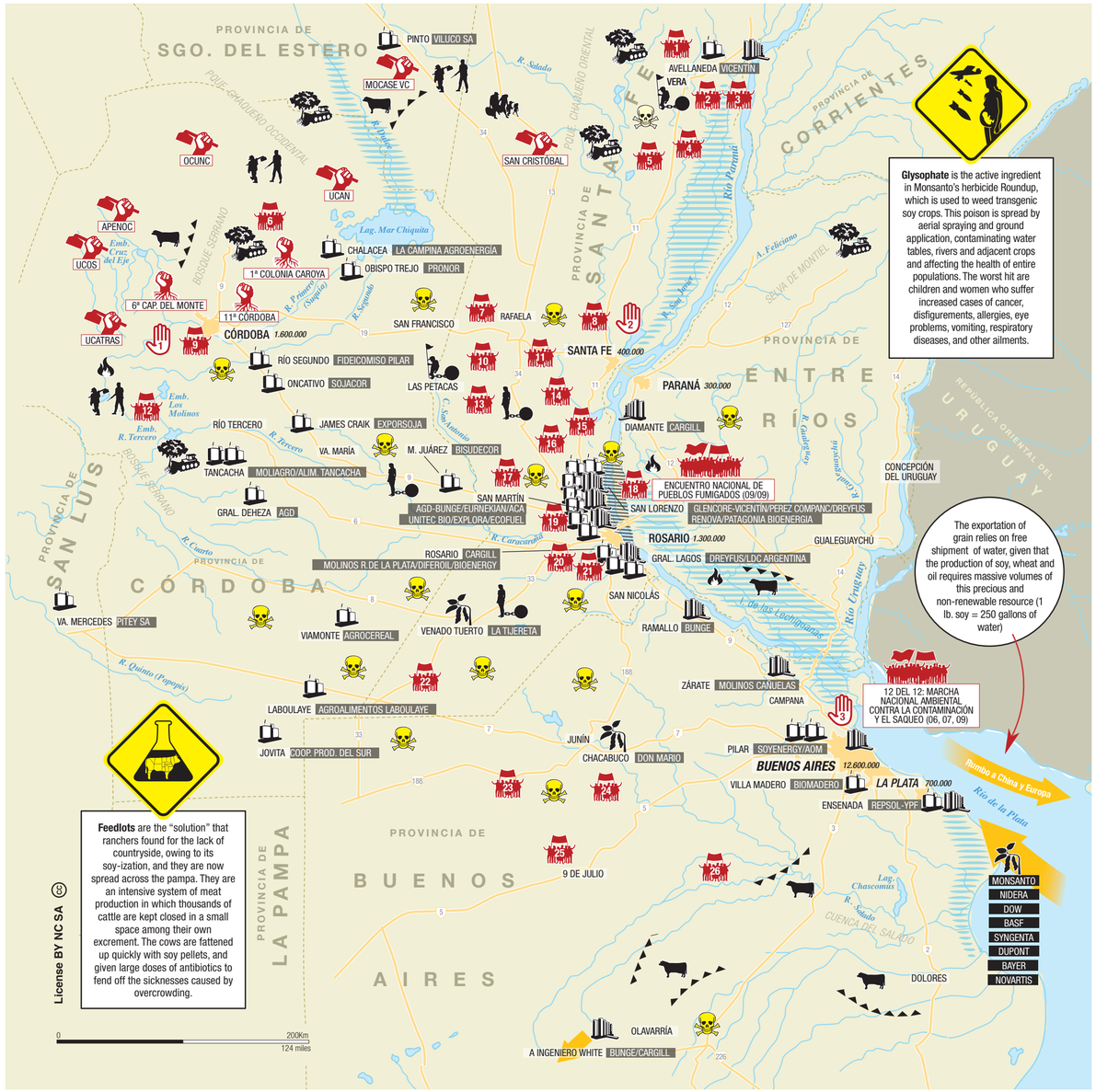
The production of biofuels, such as **bioethanol** (sugar cane) and **biodiesel** (soy, corn and sunflower), is a misled solution to the scarcity of fossil fuels and global warming. Besides not being able to satisfy the demand for energy production, they lead to deforestation and the rising cost of food. **Argentina produces more than 10% of the world supply of biodiesel**, concentrating 85% of its productive capacity in the province of Santa Fe. Production increased this year due to a law that forces oil companies to include at least 5% biofuel in all gasoline.

Key

- Transgenic seeds
- Destruction of remaining primary forest
- Indiscriminate burning of pastures and woodland
- Expulsion of small producers
- Eviction of campesinos by parapolice
- Expulsion and enclosure of cattle offspring
- Exploitation of children "Flag children"
- Routes of soy and human trafficking (sexual exploitation)
- Biodiesel plants that exceed 20,000,000 tons per year
- Ports for agro-businesses
- Contamination by agro-toxins from aerial fumigation
- Silo dust pollution
- 300.000 State Capital, provincial capitals, big city and population
- 9 Major soy traffic routes
- RÍO SEGUNDO FIDEICOMISO PILAR — *City or place* / *Company*
- Wetland
- Campesino movements to defend the land
- Gatherings of the Union of Citizens' Assemblies (UAC)
- End to fumigation
  1. Córdoba province
  2. CEPRONAT (Santa Fe province)
  3. Buenos Aires province
- Demonstrations and marches against the soy model
- Neighborhood organizations against glyphosate

1. Reconquista, **2.** Romang, **3.** Malabrigo, **4.** Alejandra, **5.** Estación Díaz, **6.** Grupo Ecológico 9 de Julio (Valle del Cármen), **7.** Rafaela, **8.** Desvío Arijón, **9.** Madres de Barrio Ituzaingó, **10.** María Juana, **11.** San Carlos Sud, **12.** Semillas del sur (Calamuchita), **13.** San Jorge, **14.** Bernardo de Yrigoyen, **15.** Monje, **16.** Totoras, **17.** San Genaro, **18.** San Lorenzo, **19.** Ricardone, **20.** Casilda, **21.** La Criolla, **22.** Rufino, **23.** Lincoln, **24.** Los Toldos, **25.** 9 de Julio, **26.** Saladillo.

* This map is the result of the systematization of the following collective mapping workshops (2008-2009): Pañuelos en Rebeldía /Buenos Aires. Escuela de Ciencias de la Información y Casa 13 / Córdoba. Facultad de Ciencias Económicas y Centro Cultural La Toma / Rosario. Unión de Asambleas Ciudadanas / Córdoba. Tandil, Olavarría, San Andrés de Giles, La Plata / Buenos Aires. **More info: http://iconoclasistas.com.ar/**



Glysophate is the active ingredient in Monsanto's herbicide Roundup, which is used to weed transgenic soy crops. This poison is spread by aerial spraying and ground application, contaminating water tables, rivers and adjacent crops and affecting the health of entire populations. The worst hit are children and women who suffer increased cases of cancer, disfigurements, allergies, eye problems, vomiting, respiratory diseases, and other ailments.

The exportation of grain relies on free shipment of water, given that the production of soy, wheat and oil requires massive volumes of this precious and non-renewable resource (1 lb. soy = 250 gallons of water)

12 DEL 12: MARCHA NACIONAL AMBIENTAL CONTRA LA CONTAMINACIÓN Y EL SAQUEO (06, 07, 09)

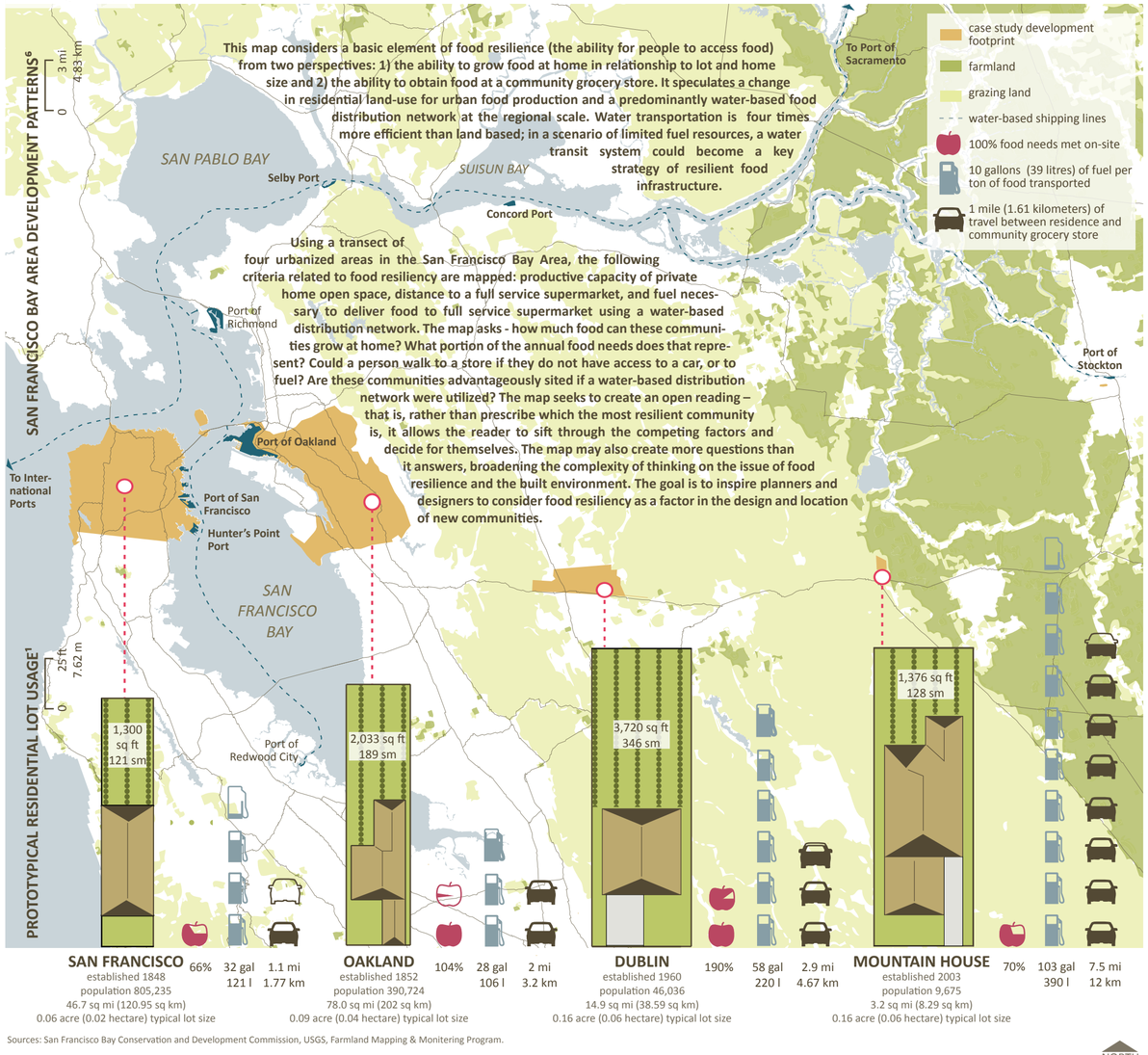
Rumbo a China y Europa

Feedlots are the "solution" that ranchers found for the lack of countryside, owing to its soy-ization, and they are now spread across the pampa. They are an intensive system of meat production in which thousands of cattle are kept closed in a small space among their own excrement. The cows are fattened up quickly with soy pellets, and given large doses of antibiotics to fend off the sicknesses caused by overcrowding.

N Claire Napawan & Ellen Burke

REGIONAL FOOD RESILIENCE: MAPPING POTENTIAL ADAPTATIONS TO SAN FRANCISCO BAY AREA'S FOOD SYSTEM

N. CLAIRE NAPAWAN & ELLEN BURKE (AUTHORS)



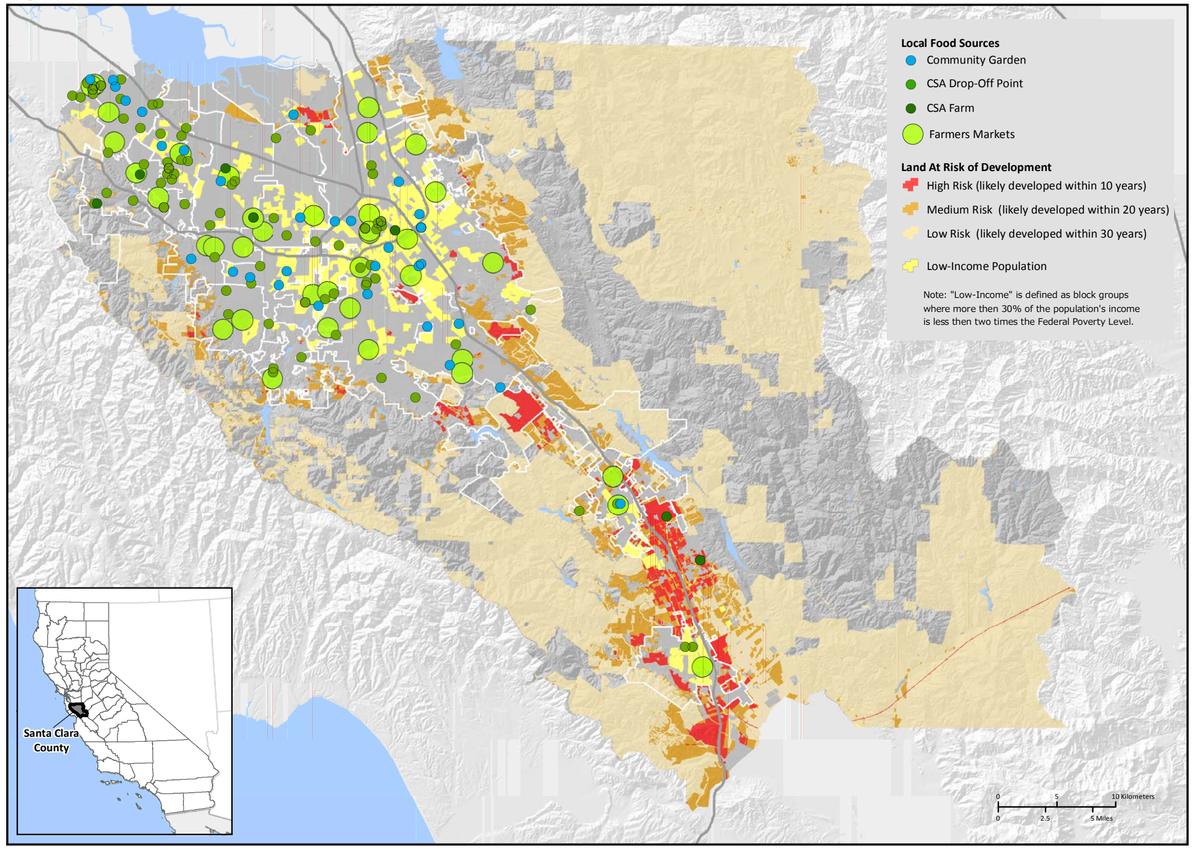
Sources: San Francisco Bay Conservation and Development Commission, USGS, Farmland Mapping & Monitering Program.

Local Food in Santa Clara County

Brian Fulfrost

BRIAN FULFROST & ASSOCIATES

LOCAL FOOD IN SANTA CLARA COUNTY



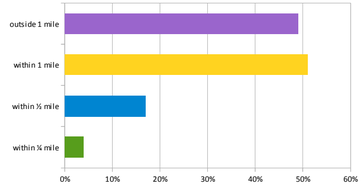
Local Food

As a source of fresh, healthy, locally grown food, Healthy Food Resources (HFR) are increasingly being promoted as important community features that can support public health, reduce environmental pollution, and promote economic vitality and self sufficiency. However, not all communities in Santa Clara County have equal access to HFRs.

Low-income households face barriers to access when considering such factors as location, service, affordability, and policy. Such barriers contribute to public health inequities experienced by low-income communities and communities of color.

Source: Greenbelt Alliance (2012); American Community Survey (06-10); BFA (2009); Public Health law and Policy (2009)

Percent of Low-Income Households within Walking Distance (1/2 mile or less) of Local Food



At-Risk Land

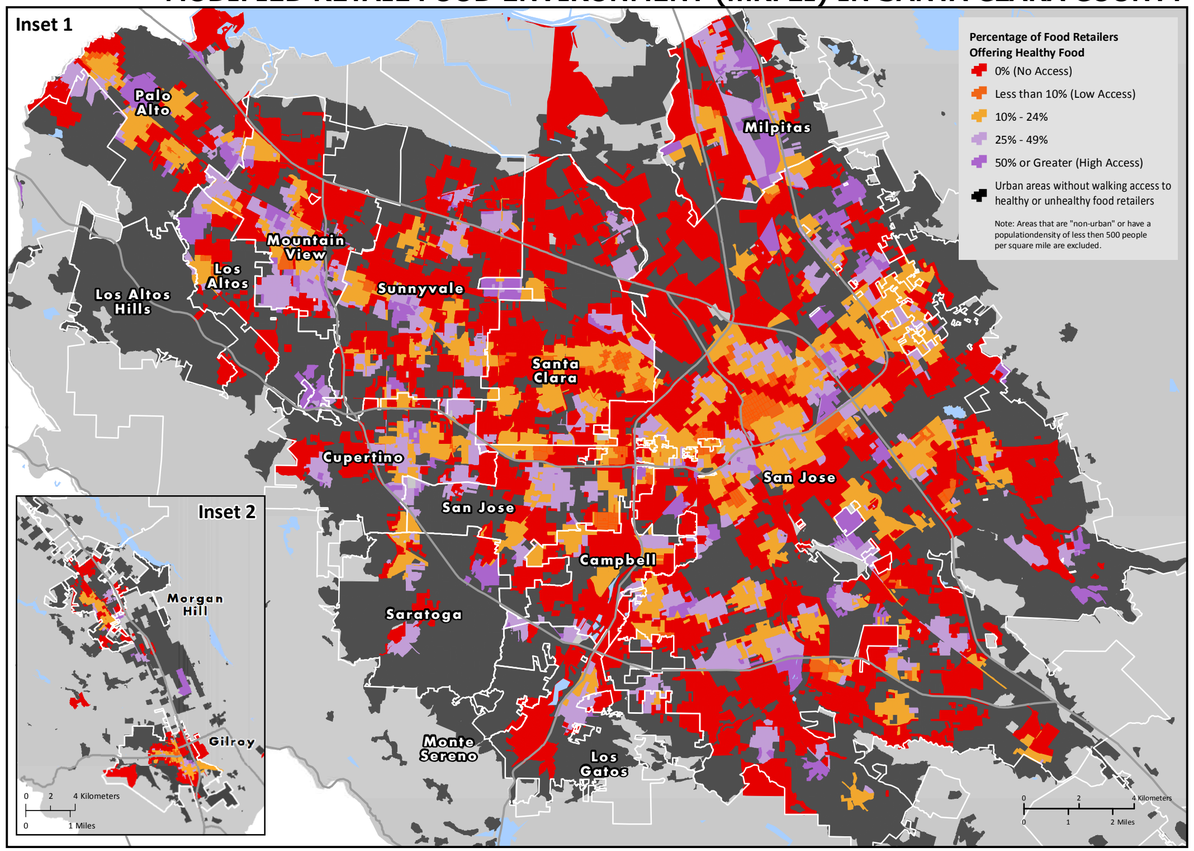
The At Risk map showing likelihood of development within 10 to 30 years is derived by directly comparing the pressure to build on open spaces against the policies enacted to keep them preserved. In Santa Clara County; over 63,400 acres of land are at risk.

Fortunately, more people are working to sustain and enhance the county's agricultural heritage in both the greenbelt as well as urban farms in cities. The county has begun a Food Systems Alliance to focus on improving access to healthy food and helping local agriculture become more viable.

Modified Retail Food Environment (mRFEI) in Santa Clara County

Brian Fulfrost

MODIFIED RETAIL FOOD ENVIRONMENT (mRFEI) IN SANTA CLARA COUNTY



Healthy Food Environment

The food environment includes:

- The physical presence of food that affects a person's diet,
- A person's proximity to food store locations,
- The distribution of food stores, food service, and any physical entity by which food may be obtained, or
- A connected system that allows access to food.

Planning for improvement in overall community health should include access to affordable and healthy food. Growing evidence demonstrates a strong relationship between our health and the built environment.

mRFEI

The modified Retail Food Environment Index (mRFEI) measures the number of healthy food retailers as a percentage of the total number of healthy and unhealthy retailers in a given area. For this indicator, healthy food retailers include supermarkets, supercenters, and smaller produce stores. Less healthy food retailers include convenience stores, fast food, and small coner stores.

Strategies to improve the community food environment include increased access and availability to healthier food retailers. The mRFEI is one of the tools used to promote "Healthy Planning" in addition to tools that promote active transporation and mixed land use patterns.

Sources: Center for Disease Conrol and Prevention (CDC), California Nutrition Network (2011); USDA (2011).

BRIAN FULFROST & ASSOCIATES

Baltimore City Food Swamps

Amanda Behrens, Julia Simons, James Harding, Michael Milli

— next pages —

Starving for Fresh Food: Food Deserts in Los Angeles
Drowning in Fast Food: Food Swamps in Los Angeles

Kae Yamane

Baltimore City Food Swamps

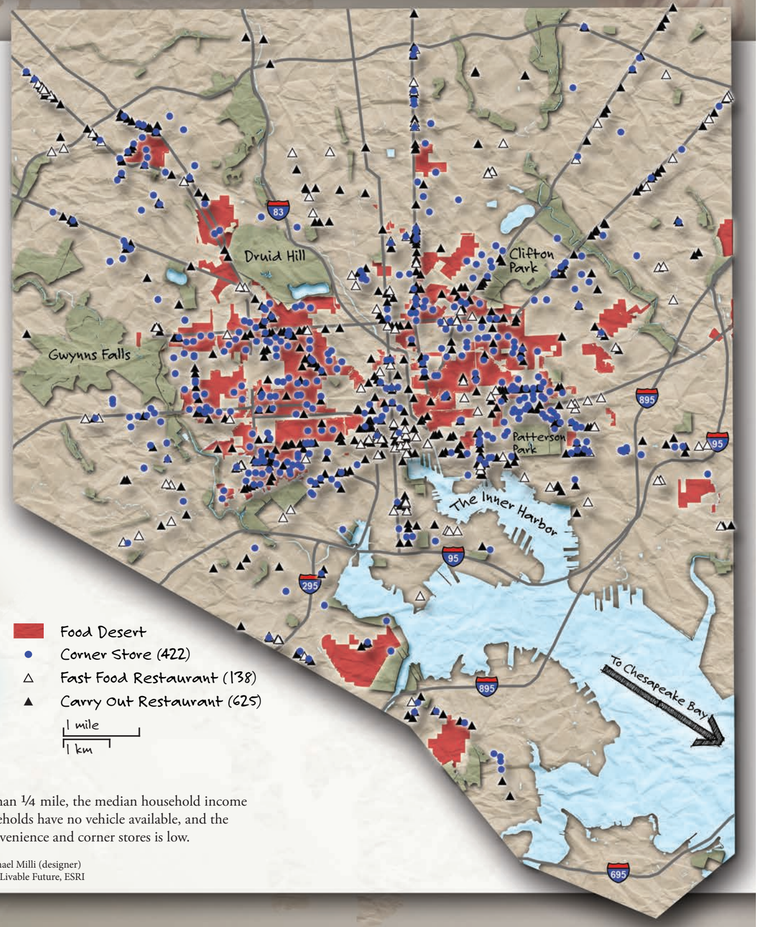
Wherever healthy food is lacking, unhealthy food tends to be abundant

What is a food swamp?

A food swamp is a place where unhealthy foods are more readily available than healthy foods. (Unhealthy foods include those that are dense in calories, high in sodium, and high in sugar.) Food swamps typically exist in food deserts, where there are limited options for purchasing healthy foods. **On this map, food swamps are represented by the dense clusters of circles and triangles**. For example, a food swamp might be an area where there is a predominance of small corner stores and carry-outs, but no healthy food sources, such as supermarkets or farmers markets.

What is a food desert?

A food desert is a low-income neighborhood that lacks easy access to healthy, affordable food. Because healthy, affordable food is usually found in supermarkets, most food deserts lack proximity to a supermarket. In Baltimore, we developed a more specific definition of "food desert" was developed that includes four factors.* On this map, food deserts are represented by the red-shaded areas.



*Food Desert: An area where the distance to a supermarket is more than ¼ mile, the median household income is at or below 185% of the Federal Poverty Level, over 40% of households have no vehicle available, and the average Healthy Food Availability Index score for supermarkets, convenience and corner stores is low.

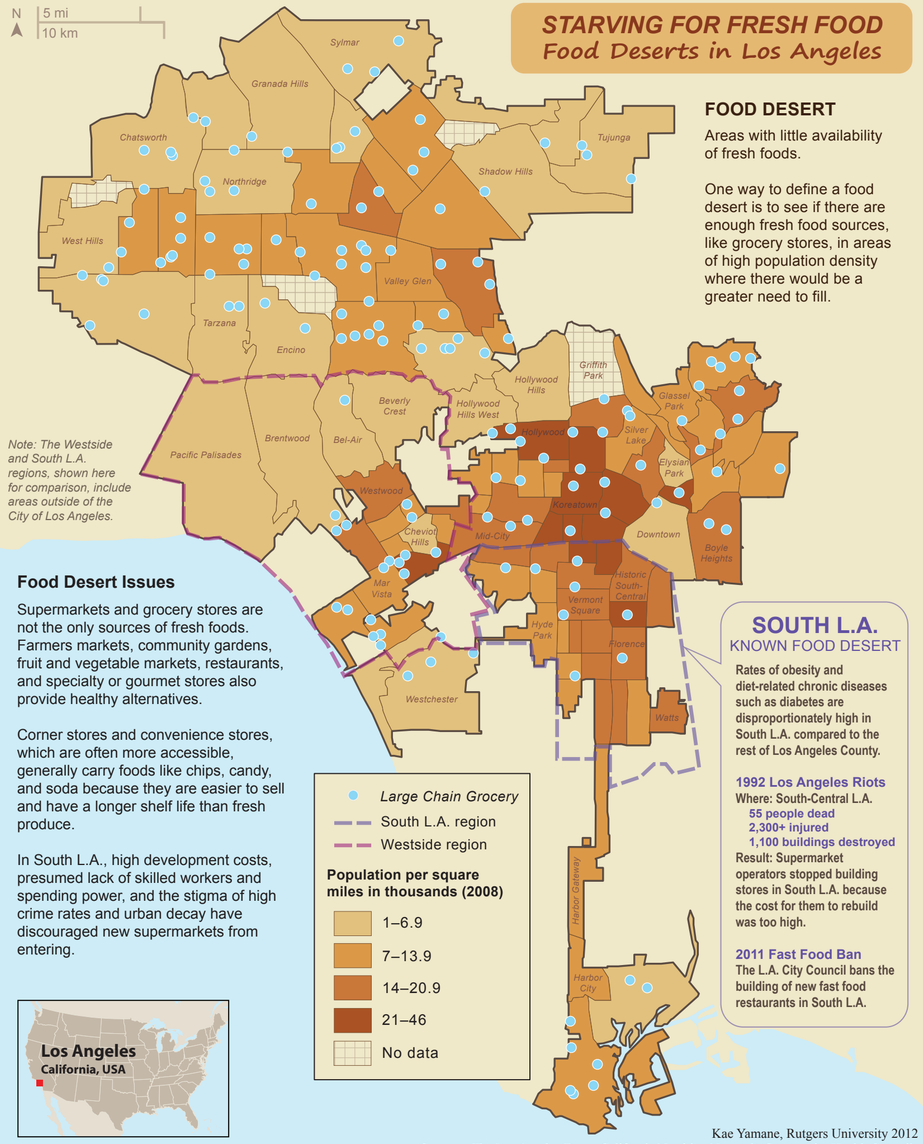
Contributors: Amanda Behrens & Julia Simons (authors), James Harding (cartographer), Michael Milli (designer)
Data sources: American Community Survey, Baltimore City Health Department, Center for a Livable Future, ESRI

JOHNS HOPKINS BLOOMBERG SCHOOL of PUBLIC HEALTH

mdfoodsystemmap.org
jhsph.edu/clf

JOHNS HOPKINS Center for a Livable Future

STARVING FOR FRESH FOOD
Food Deserts in Los Angeles



Note: The Westside and South L.A. regions, shown here for comparison, include areas outside of the City of Los Angeles.

FOOD DESERT

Areas with little availability of fresh foods.

One way to define a food desert is to see if there are enough fresh food sources, like grocery stores, in areas of high population density where there would be a greater need to fill.

Food Desert Issues

Supermarkets and grocery stores are not the only sources of fresh foods. Farmers markets, community gardens, fruit and vegetable markets, restaurants, and specialty or gourmet stores also provide healthy alternatives.

Corner stores and convenience stores, which are often more accessible, generally carry foods like chips, candy, and soda because they are easier to sell and have a longer shelf life than fresh produce.

In South L.A., high development costs, presumed lack of skilled workers and spending power, and the stigma of high crime rates and urban decay have discouraged new supermarkets from entering.

SOUTH L.A.
KNOWN FOOD DESERT

Rates of obesity and diet-related chronic diseases such as diabetes are disproportionately high in South L.A. compared to the rest of Los Angeles County.

1992 Los Angeles Riots
Where: South-Central L.A.
55 people dead
2,300+ injured
1,100 buildings destroyed
Result: Supermarket operators stopped building stores in South L.A. because the cost for them to rebuild was too high.

2011 Fast Food Ban
The L.A. City Council bans the building of new fast food restaurants in South L.A.

POINT DATA NOTE

Large Chain Grocery
Refers to supermarket or grocery store chain with at least ten stores.

Fast Food Chain Restaurant
Refers to quick service restaurants with six or more locations.

Data points represent locations of all California retail food establishments listed through February 2011 in the California Department of Public Health's California Nutrition Network database.

Kae Yamane, Rutgers University 2012

Sources: *The Los Angeles Times*, California Nutrition Network, Community Health Councils

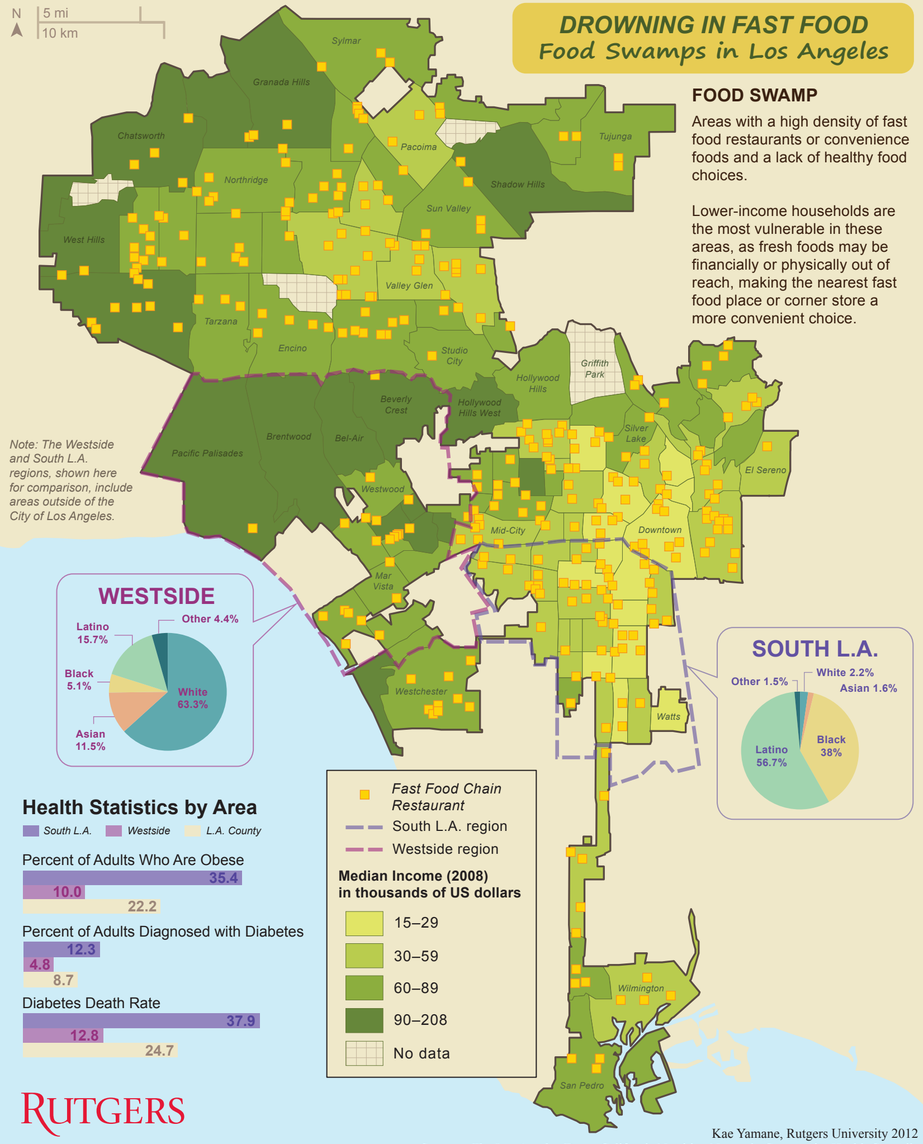
NEIGHBORHOODS

These maps use neighborhood boundaries as defined in the *Los Angeles Times* "Mapping L.A." project.

The strong neighborhood affiliations historically formed by Los Angeles residents, with their unique socioeconomic and cultural identities, may play some role in eating and exercise habits within each community.

A selection of neighborhoods are named here for orientation purposes.

DROWNING IN FAST FOOD
Food Swamps in Los Angeles



Note: The Westside and South L.A. regions, shown here for comparison, include areas outside of the City of Los Angeles.

FOOD SWAMP

Areas with a high density of fast food restaurants or convenience foods and a lack of healthy food choices.

Lower-income households are the most vulnerable in these areas, as fresh foods may be financially or physically out of reach, making the nearest fast food place or corner store a more convenient choice.

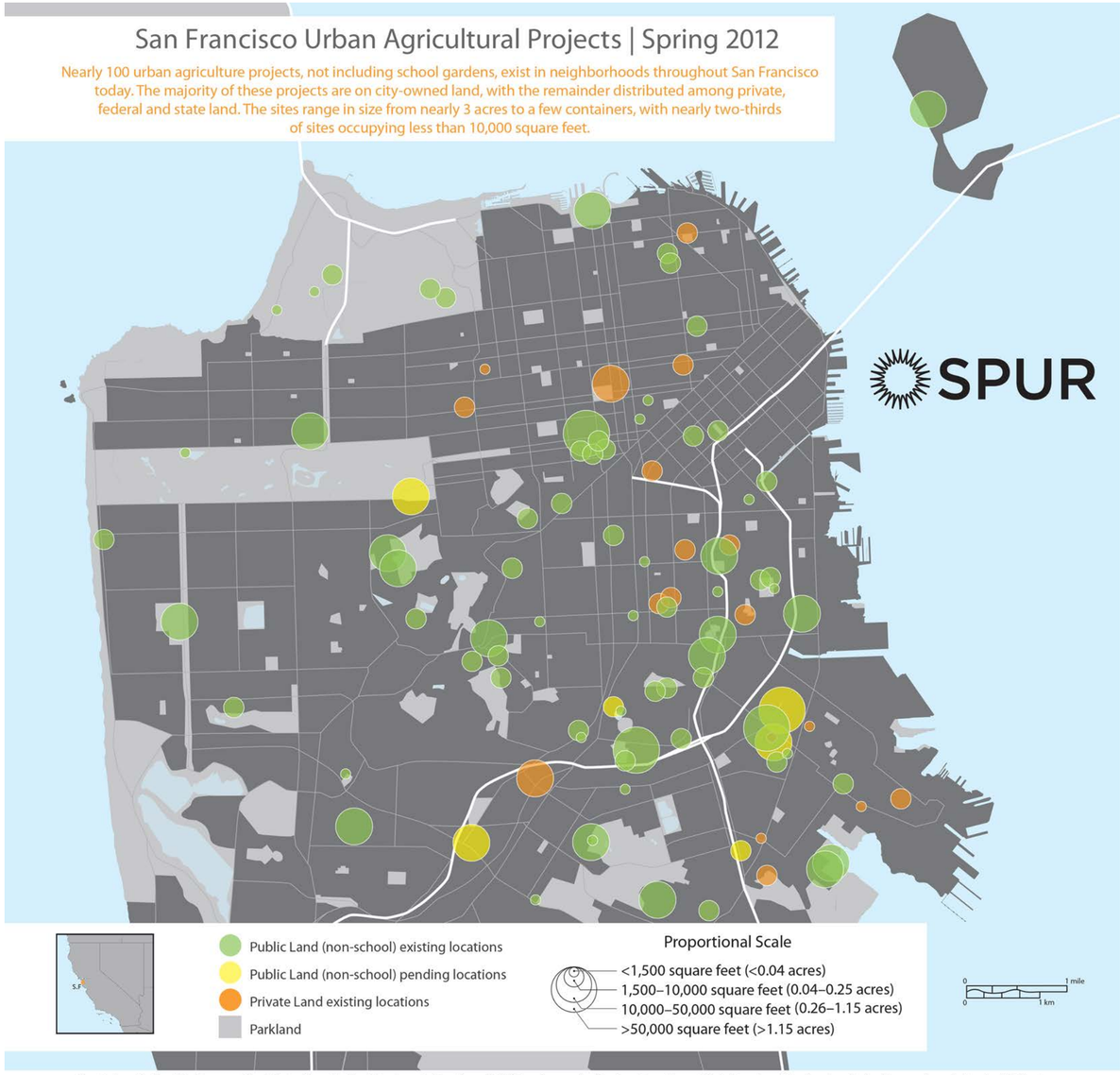
RUTGERS

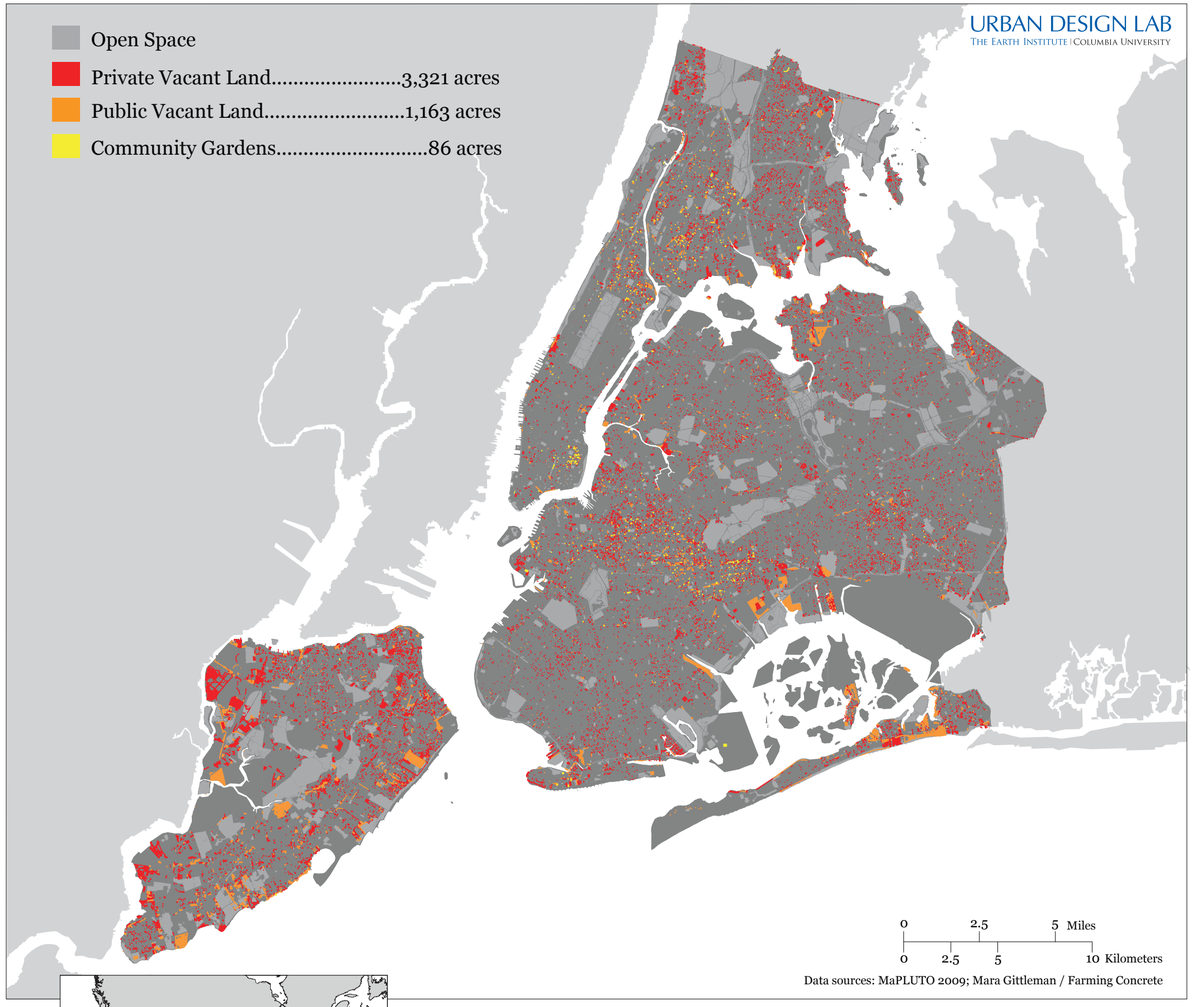
Kae Yamane, Rutgers University 2012

Sources: *The Los Angeles Times*, California Nutrition Network, Community Health Councils

San Francisco Urban Agricultural Projects

Noah Christman, David Peters, Terra N Tice, Eli Zigas



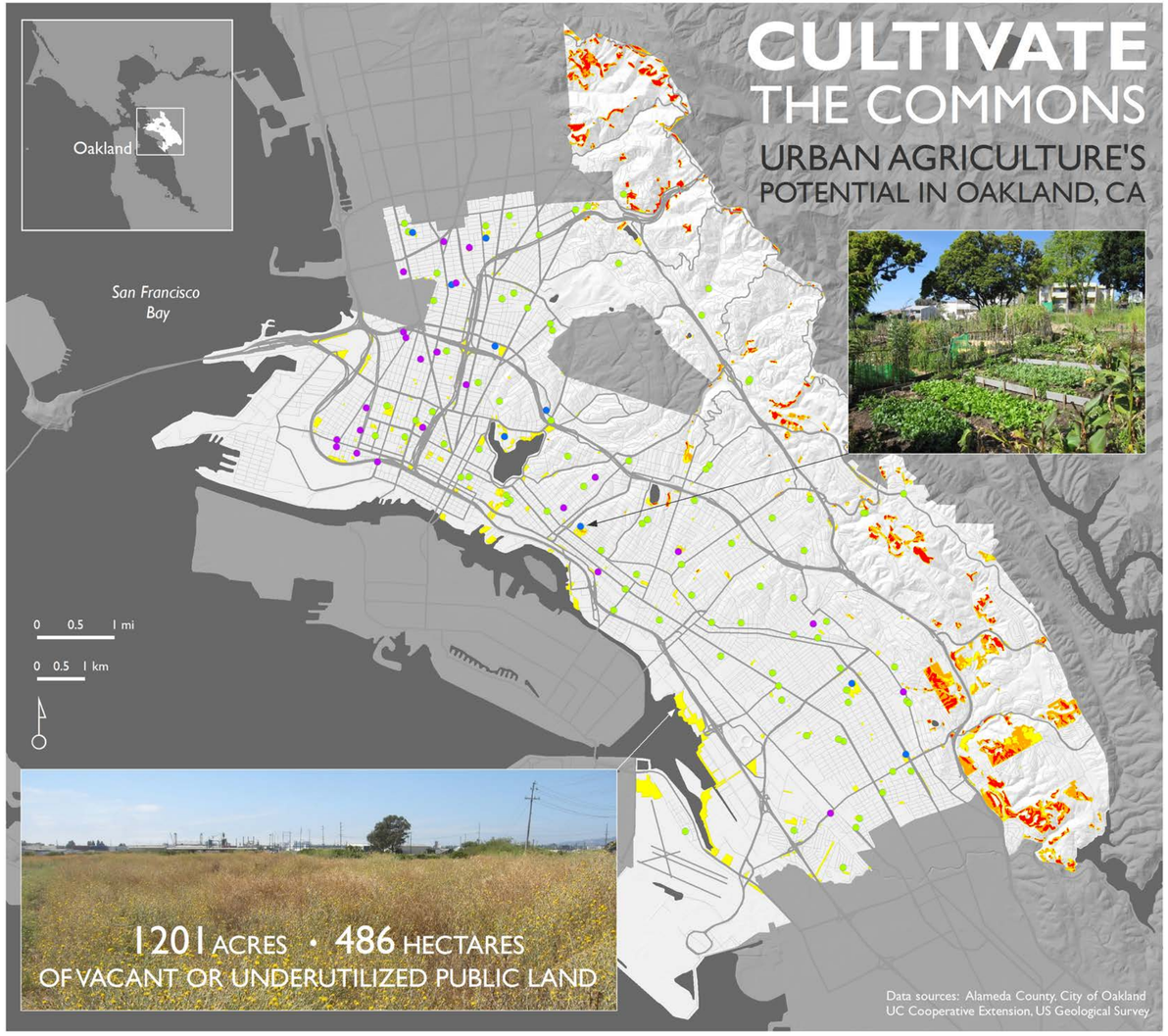


LAND AVAILABILITY IN NEW YORK CITY

Despite being the most densely populated large metro area in the U.S., there are thousands of vacant or otherwise underutilized sites in New York City. The vacant land shown consists of parcels with no active use or structures, and presents the most obvious opportunities for transformation through urban agriculture into productive spaces that serves their surrounding community. For the purposes of this map some sites deemed environmentally sensitive were not included, and while not all of these remaining parcels are suitable for agriculture, there is ample evidence of the potential for this activity to expand and flourish in New York City.

Cultivate the Commons, Urban Agriculture's Potential in Oakland, California

Nathan McClintock & Jenny Cooper



There are 1,201 acres (486 hectares) of arable public land in Oakland, California. 830 acres (486 hectares) of this land has a slope under of 30 %. Devoting even 100 acres (40.5 hectares) to urban agriculture could supply the city with as much as 5 % of its current vegetable consumption levels.

existing sites
- school gardens
- community gardens
- organization gardens

potential sites
0 - 10
10 - 30
> 30
% slope

Nathan McClintock
& Jenny Cooper

UrbanFood.org
Action Research & Education for Sustainable Food Systems

Growing Food and Community in West Oakland

Marek K Jakubowski

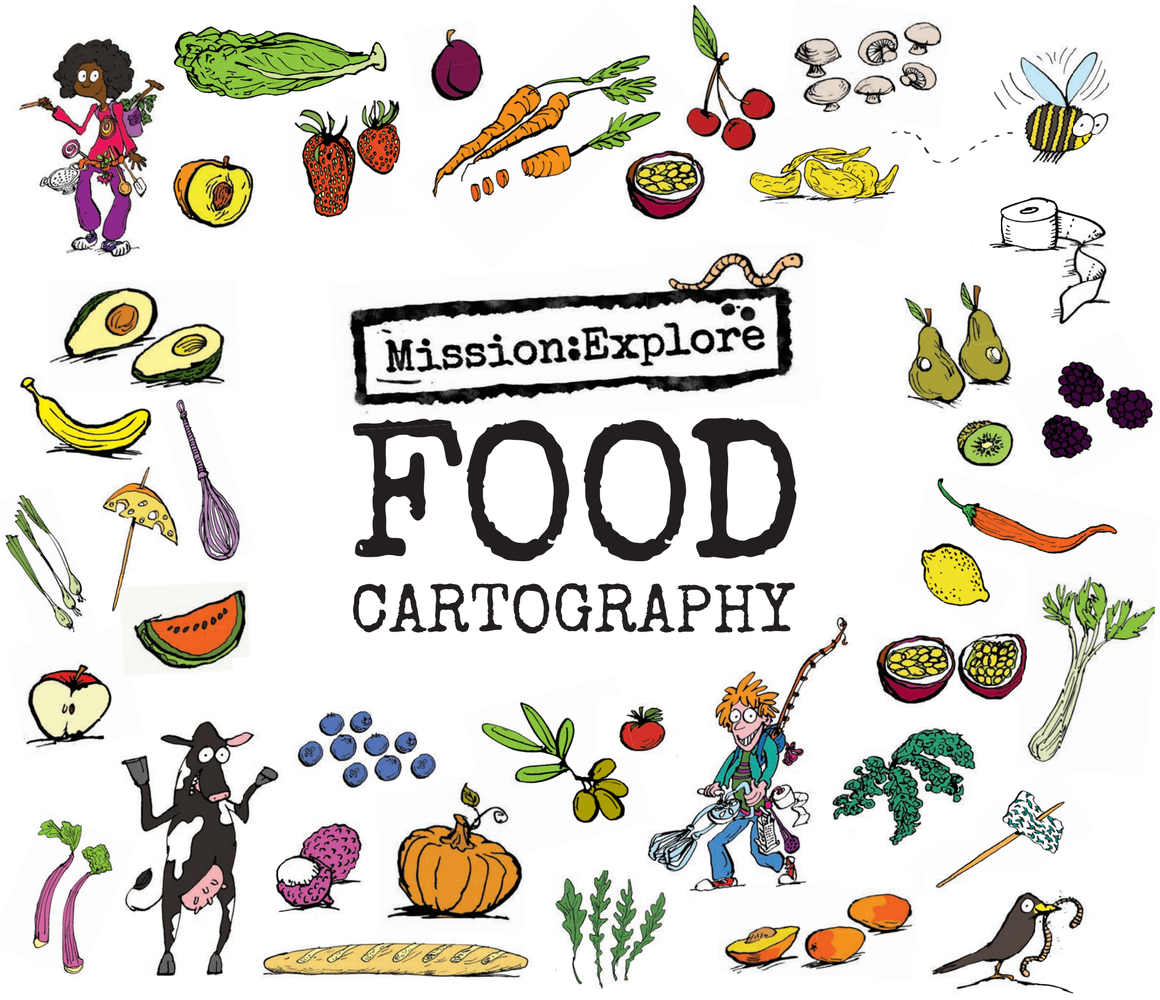
FOOD: *exploration*

You are what what you eat eats.
— Michael Pollan

We've partnered with Mission:Explore to include a number of their interactive food-exploration missions aimed at engaging the next generation of guerrilla cartographers. Big and little kids alike will relish time spent completing these food-related challenges—answering questions about foraged-food sources, considering cuts of meat, and taking on off-the-map tasks like growing brea mold and baking cookies.

By encouraging us to explore culture and tradition, these mapping activities ask us to rethink our notions about what is edible and how we experience food. They also make us think solidly about what we know of our local food system. Along the way, readers who indulge in this interactive part of the atlas are sure to learn a thing or two about cartography as well as arrive at a few new answers about the age-old question, "What's for dinner?"

Mission:Explore Food is created by The Geography Collective. This special extract has been crafted by the Collective's Helen Steer, Tom Morgan-Jones, and Daniel Raven-Ellison.

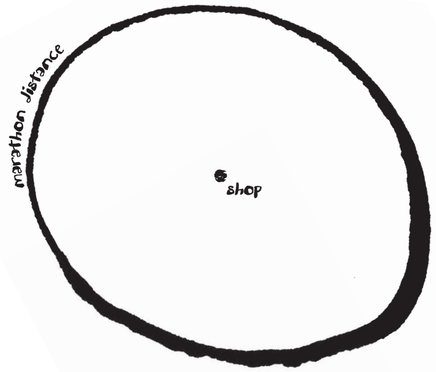


Seven guerrilla geography challenges of the 159 from Mission:Explore Food, a book by The Geography Collective and City Farmers. Explore the food system with Grow, Harvest, Cook, Eat, Waste and Soil chapters. Discover more at www.missionexplore.net.

Complete each mission starting from #MEF042 then check it off and tweet us!

MEF042
Do a marathon harvest

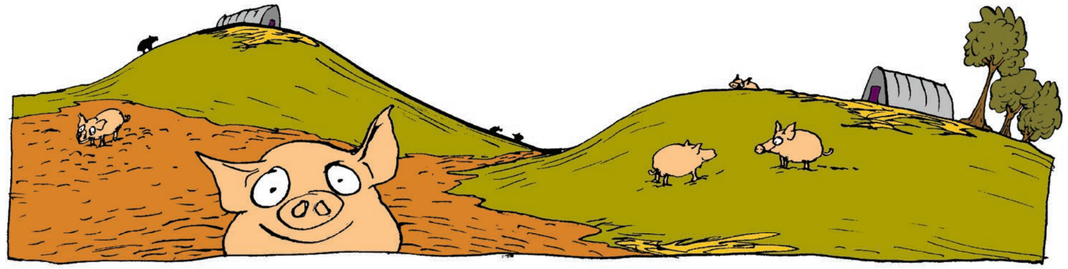
Only buy food that's been grown, harvested and produced within a marathon (26.218 miles or 42,195 metres) of your home.



What foods are inside the allowed area?

What foods are outside the allowed area?

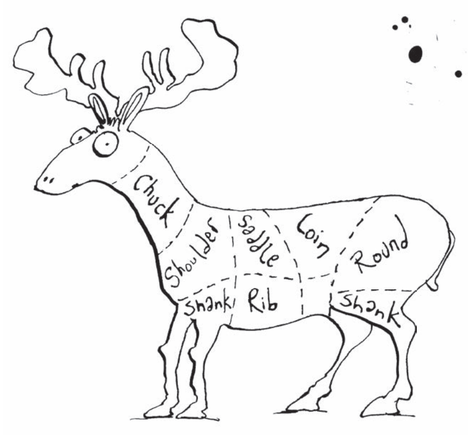
Which shops are best for sourcing local foods?

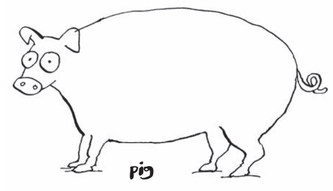


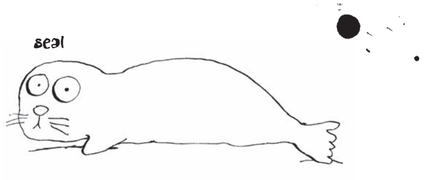
MEF046

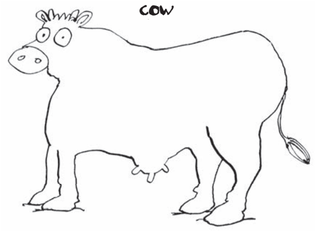
Learn your cuts

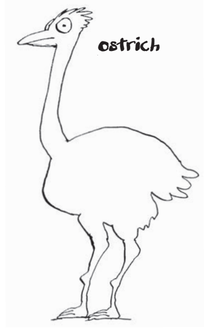
Ask your local butcher about the different cuts of meat on animals. Is there a big difference in their taste, texture, smell, healthiness or appearance? With the help of your butcher label the different parts of these other animals, just like has been done for Deary Deer below.

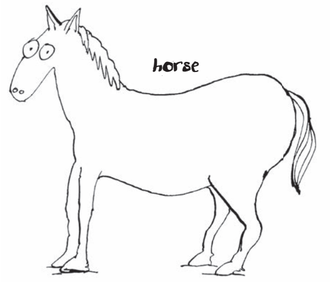












MEF053

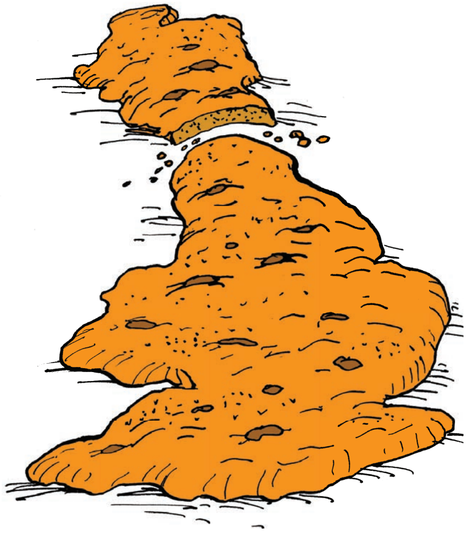
Culinary cartography

Draw a map of where your local free food supplies are.

MEF058

Cut country cookies

Make and bake cookies that look like countries.



100g butter or margarine, softened
100g soft brown sugar
100g self-raising flour
½ tsp vanilla extract
70g oats
1 egg
Extras – raisins, chocolate chips, chopped nuts...

1. Set your oven to 170°C/ 350°F/gas mark 4.

2. Cream the butter and sugar in a bowl, then mix in the eggs and vanilla extract.

3. Stir in the flour, oats and extras (if using) to form a soft dough. Add some more flour if it's too sloppy.

4. Shape the cookie dough like real or imaginary countries and place them on a lined baking sheet with room to spread out when they are in the oven.

6. Bake for around 15 minutes and let the biscuits cool for 5 minutes before tucking in.

Serving suggestion: use your cookies to demonstrate continental drift.

MEF100

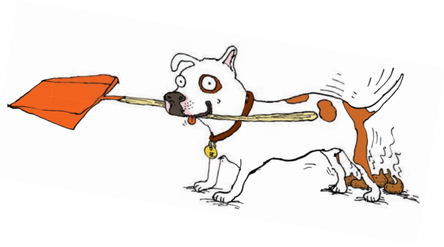
Map your taste

Explore your tongue with sweet, sour, bitter, salty and umami (savory) tastes. Try to create a map of where the different tastes are strongest.

Make your mapping more scientific and ask lots of friends to do this experiment. Do your taste buds agree?

MEF121

Where has your bum been?



Mark all the places on this map where you've deposited a poo.

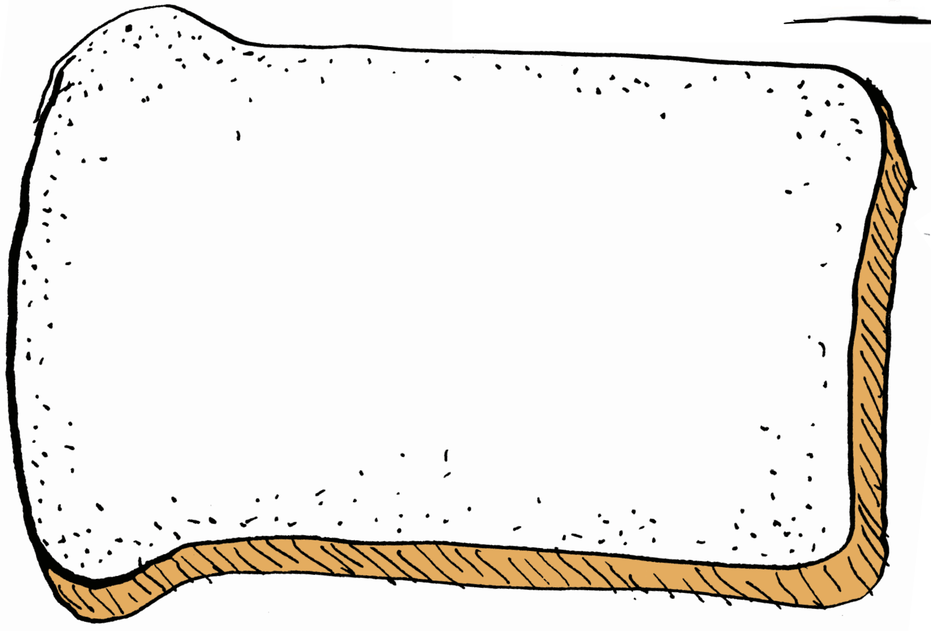
No map is 100% accurate. Can you spot anything missing or wrong with this one?

MEF122

Mold mapping

Leave a piece of bread on the windowsill and draw the mold pattern that develops over the week.

Don't touch or eat mold.



FOOD : *identities*

Tell me what you eat, and I will tell you who you are.

— Anthelme Brillat-Savarin

All maps in *Food: an Atlas* were provided by cartographers who seek to expose the truth about what (and how) we eat. In no chapter are the maps more personal—or more conceptual—than in this one. Where preceding chapters have focused on how humans produce, transport, share (or don't share) food—about how we create food—this chapter is about how food creates us.

Humans find community through what is eaten or not eaten, in the ways we grow, prepare, and celebrate food. Hence, these maps conceptualize food through memory, identity, and relationship to the landscape. Food as a touchstone of the human experience. These maps forge meaning by focusing on the fusion of food and place. They demonstrate the beauty of our interconnectedness.

GLOBAL GASTRONOMY

An unofficial map of national dishes from *Meatpaper* magazine

RESEARCH, TEXT, AND CARTOGRAPHY BY SOPHIA HUSSAIN
ART DIRECTION AND CARTOGRAPHY BY SASHA WIZANSKY

THE TASK OF COMPILING the national dishes of the world yields only one conclusive finding: that it is impossible. But the potential to create a map showing patterns of meat dishes in traditional cuisines across the globe was too alluring to deny, so we present you with the first-ever unofficial map of national dishes of the world.

What makes a national dish is ambiguous: Is it a staple food (millet, Chad), or a heritage food with limited appeal beyond its nation of origin (hákarl, fermented shark, Iceland)? Is it simply the most popular dish eaten in the country, or the most iconic?
Does a national dish represent the interest of tourism bureaus (bandeja paisa, Colombia), or the voice of the people? Is it a reflection of postcolonial mixing and migration (currywurst, Germany), or a dish that a country can claim to have conceived? Many people have proposed that the true national dish of England is not Roast Beef and Yorkshire Pudding, but Chicken Tikka Masala. In countries such as Mexico and India, regional cooking dictates the plate. And what claims can be made about a national dish in a country afflicted by food scarcity? There are few officially recorded national dishes (Grenada's Oil Down is one); the rest are hotly contested within countries and among neighbors, online forums, and Wikipedia pages alike.

Though our findings are unscientific and potentially controversial, we hope our map inspires hungry explorers to venture into new territories.

RELATIVE FONT SIZES CORRESPOND TO COUNTRY POPULATIONS. FOR EXAMPLE:

PAN BAGNAT POP. 30,510
KOTTBULLAR POP. 9,103,788
NYAMA CHOMA POP. 43,013,341
PEKING DUCK POP. 1,343,239,923

COLOR KEY (IN ORDER OF FREQUENCY): MEATLESS BEEF SHEEP CHICKEN COMBINATION FISH PORK SHELLFISH DUCK GOAT GUINEA PIG FROG RABBIT REINDEER SHARK

meatpaper

NATIONAL DISH INDEX

AFGHANISTAN
Kabuli pulao
steamed rice, lentils, raisins, carrots, and lamb

ALBANIA
Tavë kosi
baked lamb with yogurt

ALGERIA
Couscous
small pellets of semolina traditionally served with vegetables, spice sauce, and meat, or as a meatless side with cinnamon, almonds, and sugar

ANDORRA
Escudella de pages
country stew

ANGOLA
Muamba de galinha
palm nuts, chicken, fish, peanuts, rice, cassava, bananas, hot pepper sauce

ANTIGUA AND BARBUDA
Fungee and pepperpot
cornmeal and salt beef

ARGENTINA
Asado
beef cooked over an open fire

ARMENIA
Harissa
chicken wheat porridge

AUSTRALIA
Meat pie
Minced meat and gravy pie

AUSTRIA
Wiener Schnitzel
pounded veal cutlets breaded and lightly fried

AZERBAIJAN
Yapaq dolmasi
lamb-stuffed grape leaves

BAHAMAS
Crack conch with peas and rice
deep-fried conch

BAHRAIN
Machboos
spices, basmati rice, meat, and vegetables

BANGLADESH
Rice and Ilish
rice with ilish, or hilsa fish

BARBADOS
Cou-Cou and flying fish
cornmeal and okra with flying fish

BELARUS
Draniki
potato pancakes

BELGIUM
Moules-frites
mussels and French fries

BELIZE
Boil up
boiled ground staples such as cassava, sweet potatoes, plantains, and yam added to fish, pig tail, and boiled eggs covered in a tomato sauce

BENIN
Kuli-kuli
deep-fried peanut sticks

BHUTAN
Ema datshi
chili peppers and cheese

BOLIVIA
Picante de pollo
chicken in spicy sauce

BOSNIA AND HERZGOVINA
Bosanski Lonac (Bosnian pot)
stew of larger cuts of meat and vegetables, usually containing beef, lamb, cabbage, potato, tomatoes, and whole spices

BOTSWANA
Seswaa
boiled, pounded meat of beef or goat

BRAZIL
Feijoada
bean stew with beef and pork

BRUNEI
Ambuyat
sago palm starch

BULGARIA
Monastery gyuvetch
stew of beef, tomato, mushrooms, olive, and rice

BURKINA FASO
Riz gras
"fat rice," made with chicken

CAMBODIA
Amok trey
steamed curried fish with coconut milk

CAMEROON
Ndolé
bitterleaf soup with peanuts, shrimp, and salt fish

CANADA
Poutine
French fries covered in cheese curds and brown gravy

CAPE VERDE
Cachupa
slow-cooked stew of corn, beans, and fish or meat

CENTRAL AFRICAN REPUBLIC
Fufu
plantains, cassava, or yams pounded into a sticky dough and served with a seasoned meat (often chicken) and vegetable sauce

CHAD
Boule
millet

CHILE
Pastel de choclo
corn and meat pie

CHINA
Peking duck
fattened roast duck dipped in sugar and garlic sauce

COLOMBIA
Bandeja paisa
plate of beef, chorizo, pork, beans, white rice, fried egg, plantain, and avocado

CONGO, DEMOCRATIC REPUBLIC OF THE
Poulet moambé
fried chicken with red fruit around the seed of the African oil palm

COSTA RICA
Gallo pinto
rice and beans

COTE D'IVOIRE
Fufu
(see Central African Republic)

CROATIA
Istarska jota
Istrian stew of pork and beef

CUBA
Platillo moros y cristianos
rice and beans

CYPRUS
Fasolada
sailor's bean soup

CZECH REPUBLIC
Vepřo knedlo zelo
roast pork, dumplings, sauerkraut

DENMARK
Frikadeller
beef and pork meatballs

DOMINICA
Mountain chicken
seasoned and stewed frog legs

DOMINICAN REPUBLIC
La Bandera
rice and beans with chicken

ECUADOR
Cuy
deep-fried guinea pig

EGYPT
Ful medames
cooked and mashed fava beans served with olive oil, chopped parsley, onion, garlic, and lemon juice.

EL SALVADOR
Pupusa
thick corn tortilla filled with cheese, refried beans, and cooked pork

ENGLAND
Roast beef and Yorkshire pudding
sirloin roast beef with gravy and a savory pastry

EQUATORIAL GUINEA
Succotash
lima beans and tomatoes simmered in butter and stewed in corn

ERITREA
Zigini with injera
curry stew

ESTONIA
Verivorst with mulgikapsad
blood sausage, barley, pork, sauerkraut, and boiled potatoes

ETHIOPIA
Doro wet
chicken stew with red pepper paste

FINLAND
Mämmi
water, rye flour, powdered malted rye, molasses, orange zest

FRANCE
Pot-au-feu (pot in the fire)
stewing steak, root vegetables, and spices

GABON
Poulet nyembwe
chicken with palm nut sauce

GEORGIA
Khachapuri
bread filled with cheese and eggs

GERMANY
Currywurst
steamed pork sausage covered in curry ketchup

GHANA
Nkate nkwan
groundnut (peanut) stew with chicken

GREECE
Moussaka
baked layered dish of eggplant, minced meat, and tomatoes and spices with white sauce

GREENLAND
Suaasat
soup with cubed reindeer, onion, potato, and seasonings

GRENADA
Oil down
salted meat (beef, pork, chicken), dumplings, breadfruit, coconut milk, callaloo (taro leaves)

GUATEMALA
Fiambre
meat platter (chicken, chorizo, hot dog, ham, mortadella, salami, botifarra) with vegetables and tortillas

GUYANA
Pepper pot
stewed meats with brown sugar, cassarep (derived from cassava), cinnamon, and hot peppers

HAITI
Griots with rice and beans
boiled and fried cubes of pork with rice and beans

HONDURAS
Plato típico
tortillas, carne asada, chorizo, fried plantains, refried beans, guacamole, and chimol salsa

HUNGARY
Gulyás (goulash; Magyar for "herdsman")
stew of beef, vegetables, red onions, and spices such as paprika

ICELAND
Hákarl
fermented shark

INDIA
Masala dosa
fermented rice and lentil crepe filled with potato, fried onion, and spices

INDONESIA
Gado-gado
boiled vegetable salad with peanut sauce dressing

IRAN
Chelow kabab
rice and kebab

IRAQ
Masgouf
roasted carp

IRELAND
Irish Stew
a thick broth of slow-boiled lamb or mutton with onions, potatoes, carrots, and parsley

ISRAEL
Falafel
deep-fried balls of ground chickpeas

ITALY
Pasta
pasta with ragú (meat sauce)

JAMAICA
Ackee and saltfish
salt cod sautéed with ackee, a tropical fruit

JAPAN
Ramen
wheat noodle soup in meat or fish broth, often served with roast pork

JORDAN
Mansaf
lamb cooked in fermented dried yogurt

KAZAKHSTAN
Beshbarmak
a ritual meal of boiled mutton in which larger parts of the sheep are distributed based on seniority

KENYA
Nyama choma
roasted meat

KOREA, NORTH
Kimchi
pickled and fermented vegetables with garlic, ginger, chili peppers, salt, and fish sauce

KOREA, SOUTH
Kimchi
(see North Korea)

KUWAIT
Machboos
spices, basmati rice, meat, and vegetables

LAOS
Larb with sticky rice
minced meat (often chicken) flavored with fish sauce, lime, chili, and mint

LATVIA
Janu siers
cheese

LEBANON
Kibbeh
ground lamb, bulgur, and seasonings

LIBERIA
Fufu
(see Central African Republic)

LIBYA
Cuscus Bil-bolsa
couscous mixed with onion, garbanzo beans, potato, jalapeño, chili pepper, and lamb

LITHUANIA
Cepelinai
dumplings

LUXEMBOURG
Judd mat Gaardebounen
smoked neck of pork with broad beans

MACEDONIA, REPUBLIC OF
Tavče Gravče
beans in a skillet with onion and dry red pepper

MADAGASCAR
Romazava
stew of beef and greens

MALAYSIA
Nasi lemak
coconut milk rice (often served with meat) with anchovy

MALAWI
Nsima
cornmeal-based porridge eaten with side dishes of vegetables and a protein such as meat or peanut

MALTA
Stuffat Tal-Fenek
rabbit stew

MAURITANIA
Thiebaudienne
West African "rice fish" with tomato sauce

MEXICO
Molé poblano
Poblano chili pepper-based sauce with a variety of ground chilies, seeds, and spices

MONACO
Pan bagnat
stuffed sandwich with egg, anchovies

MONGOLIA
Buuz
steamed, filled pockets with minced mutton

MONTENEGRO
Kačamak
cornmeal

MOROCCO
Tajine
braised lamb or chicken with spices and vegetables, cooked in a clay pot

MOZAMBIQUE
Frango a portuguesa
Portuguese chicken

MYANMAR
Mohinga
fish soup

NAMIBIA
Meat and pap
meat and porridge

NEPAL
Dal bhat
lentils

NETHERLANDS
Stamppot
potatoes mashed with vegetables (and sometimes meat)

NEW ZEALAND
Bacon and egg pie

NICARAGUA
Gallo pinto
rice and beans

NIGERIA
Jollof rice
rice cooked (or baked) with ground tomatoes, peppers, sometimes meat and vegetables, other spices

NORTHERN IRELAND
Ulster Fry
plate of bacon rashers, sausages, black pudding, eggs, potato farl, and soda farl (breads fried in pork fat)

NORWAY
Fårikål
lamb and cabbage

PAKISTAN
Biryani
rice and lamb

PANAMA
Sancocho de gallina
stew of chicken with plantain, potato, cassava, and yuca.

PAPUA NEW GUINEA
Mumu
pork, sweet potatoes, rice and greens cooked in an earthen oven (mumu)

PARAGUAY
Sopa paraguaya
cheese cornbread with onions and pork fat

PERU
Ceviche
diced fish marinated in lime juice

PHILIPPINES
Adobo
meat (chicken, sometimes pork) with vinegar and garlic

POLAND
Bigos
savory meat and cabbage stew

PORTUGAL
Bacalhau
dried and salted codfish

ROMANIA
Ciorbă de burtă
tripe soup

RUSSIA
Pelmeni
minced meat dumplings

RWANDA
Ugali
cornmeal mush

SAINT KITTS AND NEVIS
Stewed salt fish with dumplings,
spicy plantains, and breadfruit

SAINT LUCIA
Green fig and salt fish pie
green bananas stewed with salt fish

SAINT VINCENT AND THE GRENADINES
Roasted breadfruit and fried jackfish
roasted breadfruit plant with fried jackfish (northern pike) and tomato sauce

SAUDI ARABIA
Kabsa
rice with spices, meat, and vegetables

SCOTLAND
Haggis
sheep's pluck pudding

SENEGAL
Thieboudienne
West African "rice fish" with tomato sauce

SERBIA
Ćevapčići
minced meat

SINGAPORE
Hainanese chicken rice
chicken, rice, and chili sauce

SLOVAKIA
Bryndzové halušky
potato dumplings with sheep cheese and bacon

SOMALIA
Bariis isku karis
Somali rice with spices and meat

SOUTH AFRICA
Bobotie
spiced minced meat with egg-based topping

SPAIN
Tortilla española
potato omelet

SRI LANKA
Rice and curry
boiled rice, vegetable curry, meat curry, dhal (spiced lentils), and papadum

SUDAN
Fuul
stewed brown beans

SWEDEN
Köttbullar
meatball

SWITZERLAND
Fondue
a melted blend of cheeses, white wine, and seasoning

SYRIA
Kibbeh
ground lamb, bulgur, and seasonings

TAJIKISTAN
O'sh
steamed rice mixed with lentils, raisins, carrots, and lamb

TANZANIA
Ugali
cornmeal mush

THAILAND
Pad Thai
stir-fried rice noodles with eggs, fish sauce, and shrimp

TOGO
Fufu
(see Central African Republic)

TRINIDAD AND TOBAGO
Pelau
caramelized chicken with rice, pigeon peas, and coconut milk

TUNISIA
Couscous
couscous spiced with harissa, paprika, cinnamon, and cumin served with onions, green pepper, potatoes, carrots, chickpeas, and sometimes meat or fish

TURKEY
Doner kebab
meat (lamb) roasted on a vertical spit often wrapped in a flatbread with toppings

TURKMENISTAN
Plov
mutton, carrot, rice pilaf

UGANDA
Matoke
steamed green banana

UKRAINE
Borscht
beet-root soup

UNITED KINGDOM
(See England, Northern Ireland, Scotland, and Wales)

UNITED STATES
Hamburger
ground beef patty in a bun with lettuce, tomato, and other condiments or toppings

URUGUAY
Chivito
sandwich with a slice of filet mignon, mayonnaise, olives, mozzarella, tomatoes, and often bacon, eggs, and ham

UZBEKISTAN
Pulav
rice pilaf

VENEZUELA
Pabellón criollo
rice and beans

VIETNAM
Phở bò
Beef noodle soup

WALES
Cawl
stew of lamb and leek with seasonal vegetables

YEMEN
Saltah
brown meat stew with potatoes, tomatoes, onions, and hilbeh and zhug ground spices

ZAMBIA
Nshima
cornmeal-based porridge eaten with side dishes of vegetables and a protein such as meat or peanut

ZIMBABWE
Sadza
cornmeal-based porridge eaten with side dishes of vegetables and/or meat

Fermented Foods of the World

Sandor Katz, Alex Cole-Weiss, Heather Sparks

— previous pages —

Global Gastronomy

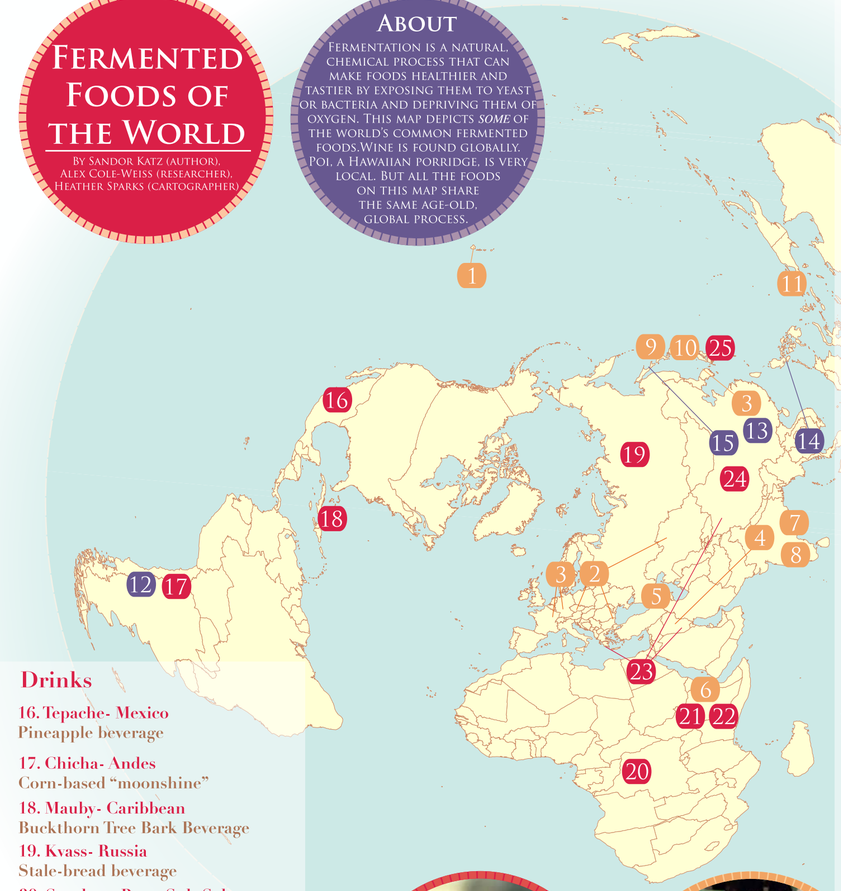
Sophia Hussain, Sasha Wizansky

Fermented Foods of the World

By Sandor Katz (author), Alex Cole-Weiss (researcher), Heather Sparks (cartographer)

About

Fermentation is a natural, chemical process that can make foods healthier and tastier by exposing them to yeast or bacteria and depriving them of oxygen. This map depicts *some* of the world's common fermented foods. Wine is found globally. Poi, a Hawaiian porridge, is very local. But all the foods on this map share the same age-old, global process.



Staple Foods

1. Poi- Hawaii
Taro root staple/porridge

2. Cheese- Europe, Central Asia, Middle East
Firm/soft milk-based foods

3. Sauerkraut/Kimchi- Germany, France, China, Korea
Shredded-cabbage dish

4. Yogurt- India, Iran
Bacterially-fermented milk

5. Kefir-Central Caucasus Mountains
Fermented milk

6. Injera-Ethiopia
Fermented grain bread

7. Dosa- South India
Thin, lentil-rice pancake

8. Idli- South India
Steamed lentil/rice dumpling

9. Natto- Japan
Gooey soybean staple dish

10. Tsukemono- Japan
Japanese pickles

11. Tempeh- Indonesia
Firm soybean "patty"

Condiments & Sweets

12. Chocolate- Amazon & Central America
Sweet cacao bean product

13. Soy Sauce/Tamari- China
Saucy soybean condiment

14. Fish Sauce- Thailand, Camobia, Vietnam, and Philippines
Salt-and-fish condiment

15. Miso- China & Japan
Soybean paste condiment

Drinks

16. Tepache- Mexico
Pineapple beverage

17. Chicha- Andes
Corn-based "moonshine"

18. Mauby- Caribbean
Buckthorn Tree Bark Beverage

19. Kvass- Russia
Stale-bread beverage

20. Sorghum Beer- Sub-Sahara
Beer made from malted sorghum

21. Tej- Ethiopia
Honey wine

22. Coffee-Ethiopia
Coffee-beans beverarge

23. Wine- China, Iran, Egypt, Greece
Fermented fruit (often grape) juice

24. Tea- China
Camelia sinesis leaf drink

25. Sake- Japan
Rice beer

Key Sources: *Wild Fermentation: The Flavor, Nutrition, and Craft of Live-Culture Foods* by Sandor Katz; Natural Earth Data; Wikimedia

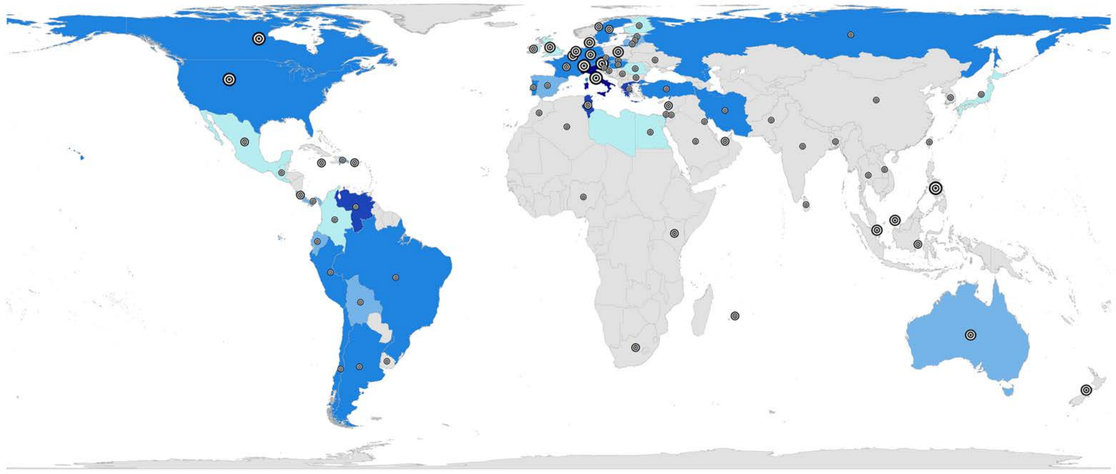
Global Spaghetti

Cristina Capineri, Claudio Calvino, Antonello Romano, Michela Teobaldi

Cristina Capineri
Claudio Calvino
Antonello Romano
Michela Teobaldi

Global Spaghetti

How global is spaghetti? Apparently more than Van Gogh! A Google search returns 117 million pages on "spaghetti" but only 86 million pages for Van Gogh. The search volume reported by Google trends for spaghetti stems from the worldwide diffusion of pasta consumption. The data show that pasta is part of several cultures' diets, in particular in North and South America and in central and southern Europe. Why so global? Well, more than immigration flows and tourism, the "soft power" of the Mediterranean diet accounts for the globalization of "spaghetti". Namely, it is the seduction exerted by the Mediterranean cooking culture which has made "spaghetti" root in different places and embed in local cooking cultures.



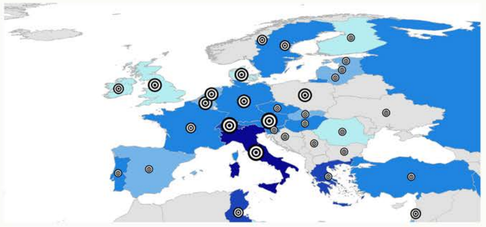
Pasta Consumption
Kg/ capita /2011

- 1 - 3,2
- 3,3 - 5,4
- 5,5 - 9
- 9,1 - 13
- 13,1 - 26
- No Consumption Data

Google Search Volume for "Spaghetti"
2004-2012

- Low
- Medium
- High
- Very high

Categories are refered to google trends.
"Very High" = 100 (max search volume)



1 Kg = 7716 calories

www.google.com/trends/; I.P.O. 2011 ; UNESCO 2010

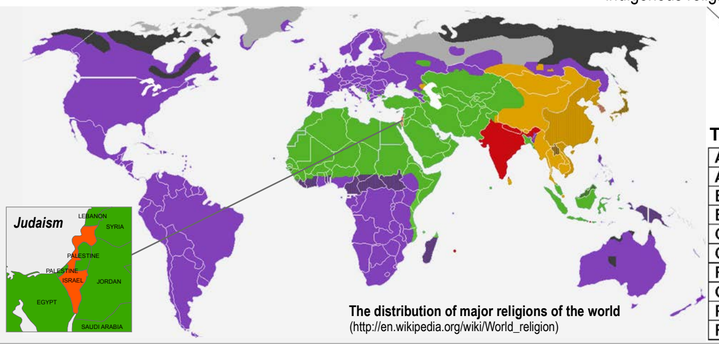
Paolo Dilda & Fabio Mandredini

TABOO FOODS: food and drink people avoid for religious reasons

Paolo Dilda, Fabio Manfredini
Data analysis and mapping lab, Dept. of Architecture and Planning (Diap) – Politecnico di Milano - paolo.dilda@polimi.it, fabio.manfredini@polimi.it

Food may establish a cultural identity of an ethnic group, religion, or nation. Food taboos are prohibitions against consuming certain foods and they may strengthen cultural identity while establishing differences between various groups. Food taboos may have originally been established to protect human health, express empathy or form group cohesion or identity. This map shows only those foods that are banned by major religious institutions.

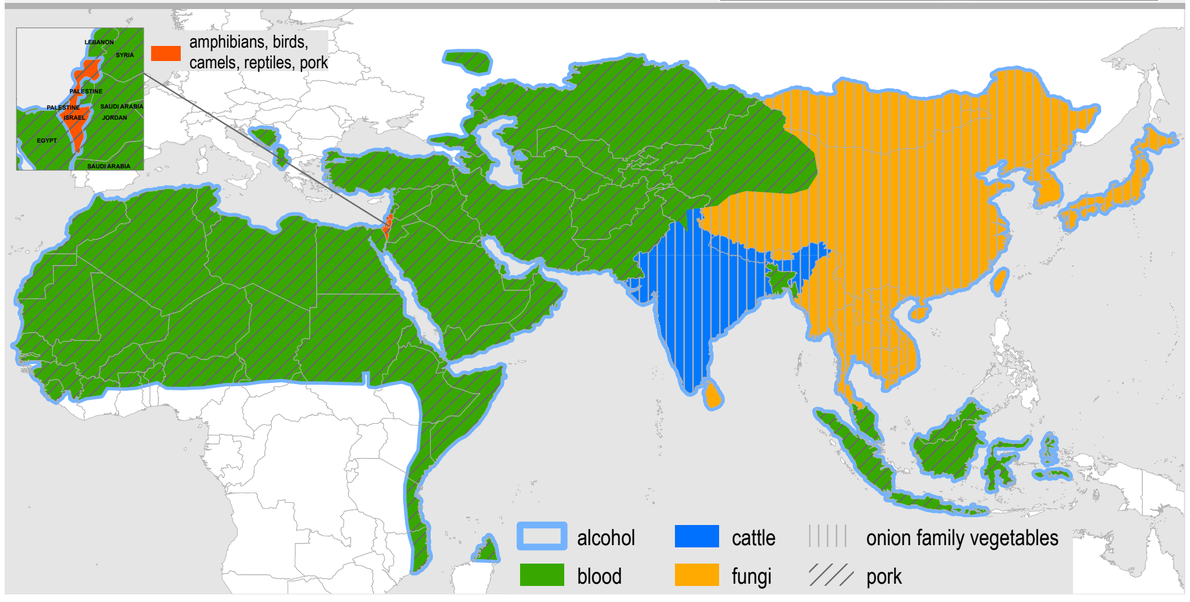
Of course, in our current world of global mobility, there will be people belonging to all of these mapped religions observing these food restrictions in all parts of the world. There are also other religious-based food taboos that don't appear on this map because they are observed by a religion apart from the local dominant religion. Examples include vegetarian restrictions by Indian Jains, caffeine restrictions by Utah Mormons, as well as many local food taboos practiced by indigenous religions.



The distribution of major religions of the world
(http://en.wikipedia.org/wiki/World_religion)

Taboo food \ Dominant religion	Christianity	Islam	Judaism	Hinduism	Buddhism	Chinese religions	Tribal religions	No religions
Alcohol		■	■	■	■			
Amphibians			■					
Birds			■					
Blood		■						
Camels			■					
Cattle				■				
Fungi					■			
Onion family veg.				■	■			
Pork		■	■					
Reptiles			■					

Data source: http://en.wikipedia.org/wiki/Taboo_food_and_drink



A Lunchbox Foodshed

Students of Rybners Gymnasium, Thomas Nielsen, Niels Nielson, Terra N Tice

A Lunchbox Foodshed

Anne
Cecilie
Ditte
Heidi
Helena
Kahlia
Katrine
Kristian
Line
Louise
Lærke
Marco
Marva
Mathias
Mathias

Mette
Mia
Monika
Nanna
Nicoline
Pernille
Rikke
Sofie
Sophia
Søren
Trine
Uffe
Niels
Thomas
Terra

On Wednesday the 5th of September, class 1.a. of the Rybners Gymnasium in Esberg, Denmark, was asked to participate in an experiment of mapping the origins of their lunchboxes. All students, age 15–17 (6 male, 21 female) were handed 3 maps; one of Denmark, one of Europe, and a world map. They were then asked to show on the map where in the world they thought the different parts of their lunch were originally sourced. The students were then instructed to investigate their observations further at home. The next day the class got together and drew **this** map as a mash up of their previous work.

The map is a curious blend of awareness and unawareness of agricultural products and industrial outputs. The products labeled on the map are wheat, cinnamon buns, ham (as part of a toast) and beef cattle. Other images and drawings clearly illustrate Greek yogurt, Italian mozzarella cheese, pomegranate and watermelon from Turkey, with the exception of the toast, which apparently originates in Germany.

There are many things that can be understood by this map including the students' awareness of the origins of their lunches, the context of their daily food intake while at school, and also a spatial orientation for high school students in a globalized, commoditized food chain.

To learn more about this project, contact
N.C. Nielsen, ncn@rybners.dk

Fruity London: Mapping Where London Gets Its Fruit From, With Fruit

The Geography Collective & Kaitlin Jaffe

FRUITY LONDON

Mapping where London gets its fruit from, with fruit

To celebrate the release of their new book, Mission:Explore Food, The Geography Collective decided to go on a little mission in London. A group of them met at Stanford's Travel before splitting into three teams. The mission was to harvest as many different varieties of fruit as they could, meeting just 3 hours later at Speaker's Corner in Hyde Park. One team went to markets in East Ham, another to Brixton and the final team to Borough Market. As well as going to open markets they went into some well-known "local" supermarkets too. Together they managed to gather nearly 150 varieties of fruit from 6 continents. A lot of food miles!

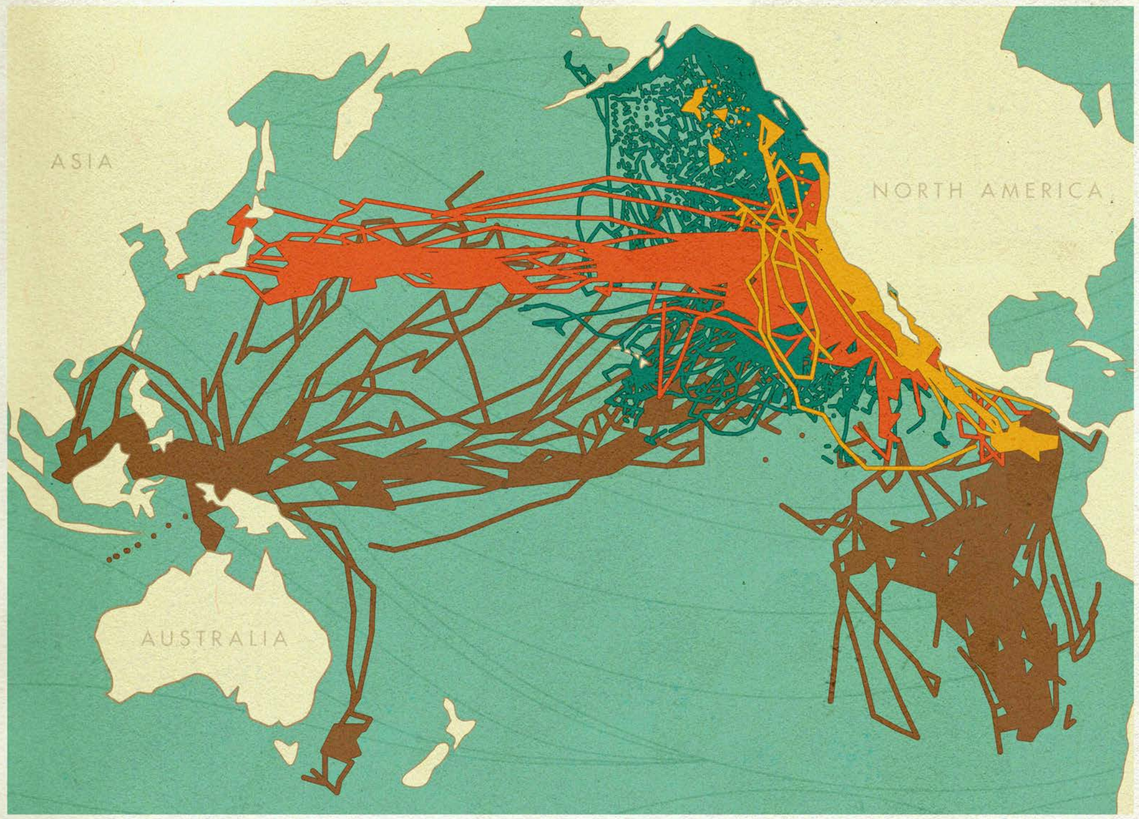
The plan was to arrange the fruit into a street-map that represented where in the world London gets some of its fruits from. They were not looking to create a world map of where food is grown or show how much of different fruits are consumed by the capital, but rather how many different things come from different places.

The map was inspired by Worldmapper and Views of the World cartograms, with everything bunched-up and "places", where fruit did not come from disappearing. Then a map was stretched underneath to match the "projection" of the fruit. Africa looks very different. The geographic location is very rough, but you should be able to see Britain at the top of the map with Spain to the south, a French melon to the southeast and Holland above that. Below Europe, West and Central Africa are empty but East and South Africa were the source of many fruits, including lots of apples. A cherry and a couple of berries came from North America, very little compared to the papaya, banana, apples, mango, pineapple and much more from South America. Can you spot the Kiwi? Can you spot Mauritius?

When doing a mission like this it's virtually impossible to not reflect on the people who produce fruits and question the food system that we're a part of.

Undersea Migration: Where Tuna Goes When You're Not Eating It

H R Smith & Audrey Nieh



Source: Tagging of Pacific Predators (TOPP)

CETACEANS
blue, fin, sperm, and humpback whales

TUNA
yellowfin, bluefin, and albacore

SHARKS
salmon, white, blue, mako, and common thresher,

SEA TURTLES
leatherback and loggerhead

UNDERSEA MIGRATION

WHERE TUNA GOES WHEN YOU'RE NOT EATING IT

Throughout time, human curiosity concerning the travel patterns of the creatures of the ocean has focused on how to best find the most delicious ones and eat them.

Then, at the beginning of the millennium, TOPP, an interdisciplinary research group dedicated to aquatic migration, began tagging fish, whales, and tortoises along the western coast of America. Some of the tags sent data to a satellite uplink. Others—on species more likely to be caught and eaten—functioned more like a black box—collecting data on their journey until their host was caught by a fishing boat and the tag was cut off and mailed in for a reward.

The result: an enormous web of data and a glimpse at world where national boundaries are irrelevant and the quest for food and habitat sorts the ocean into undersea highways. Here, the paths of four different types of ocean life, between the years 2000 and 2009.

H.R. SMITH
AUDREY NIEH

Dulce de Leche

Erica Simek & Esther Katz

Dulce de Leche

"sweet of milk"

A traditional Latin American sweet made from milk and sugar

Mexico
Dulce de leche (also called *jamoncillo)* is solid. Also produced as *cajeta*, from goat or cow milk, is liquid and sometimes packaged in small wooden boxes (*cajitas).*

Guatamala
The consistency of *dulce de leche* is hard.

El Salvador
Dulce de leche is semi-hard, and *leche de burra*, or donkey's milk, is a toffee.

Nicaragua
Cajeta, a semi-hard paste, is kneaded like corn dough for tortillas.

Cuba
Dulce de leche is produced in the island mountain region Camagüey.

Honduras *Dulce de leche* is in hard or semi-hard bars.

Costa Rica Known as *cajeta* and is light beige.

Panama
Called *manjar blanco* or *bien-me-sabe*, sometimes served on banana leaves.

Venezuela
A thick and soft paste, light beige in color, which comes in long squares or round bars made by hand or molded.

Colombia
Arequipe is liquid, *manjar blanco* is thicker and served in a calabash.

Ecuador
Known as *manjor blanco.*

Peru
Both *manjar blanco* and *natillas piuranas* (a specialty of Piura) are liquid.

Brazil
Known as *doce de leite*, Portuguese for *dulce de leche*, it is either liquid or solid. It is made in the state of Minas Gerais but is sold in most of the country in supermarkets, small stands and restaurants, in pots and big or small candy bars.

Bolivia
Also called *manjar blanco.*

Paraguay
Dulce de leche produced as a liquid.

Uruguay
Uruguay disputes the gastronomic heritage of *dulce de leche* with Argentina.

Chile
Fruit and nuts may be added to milk sweets. In Chile, *manjar* may be flavored by the local lucuma fruit.

Argentina
Dulce de leche, served as a liquid paste, similar to condensed milk, is widely consumed. It was officially declared as national heritage. Many Argentinians think it was invented here.

The Geography of Dulce de Leche

Map by Erica Simek and Esther Katz

A Culinary Tradition

Dulce de leche, manjar blanco, cajeta,... these sweets bearing several different names and characteristics are widespread in Latin America and are made from condensing milk and sugar until caramelized.

Originally home-produced in temperate cattle raising areas (mid-altitude tropical mountains and *pampas*) colonized in the 16th to 18th centuries, *dulces de leche* have been commercialized in towns of the same regions since the end of the 19th century.

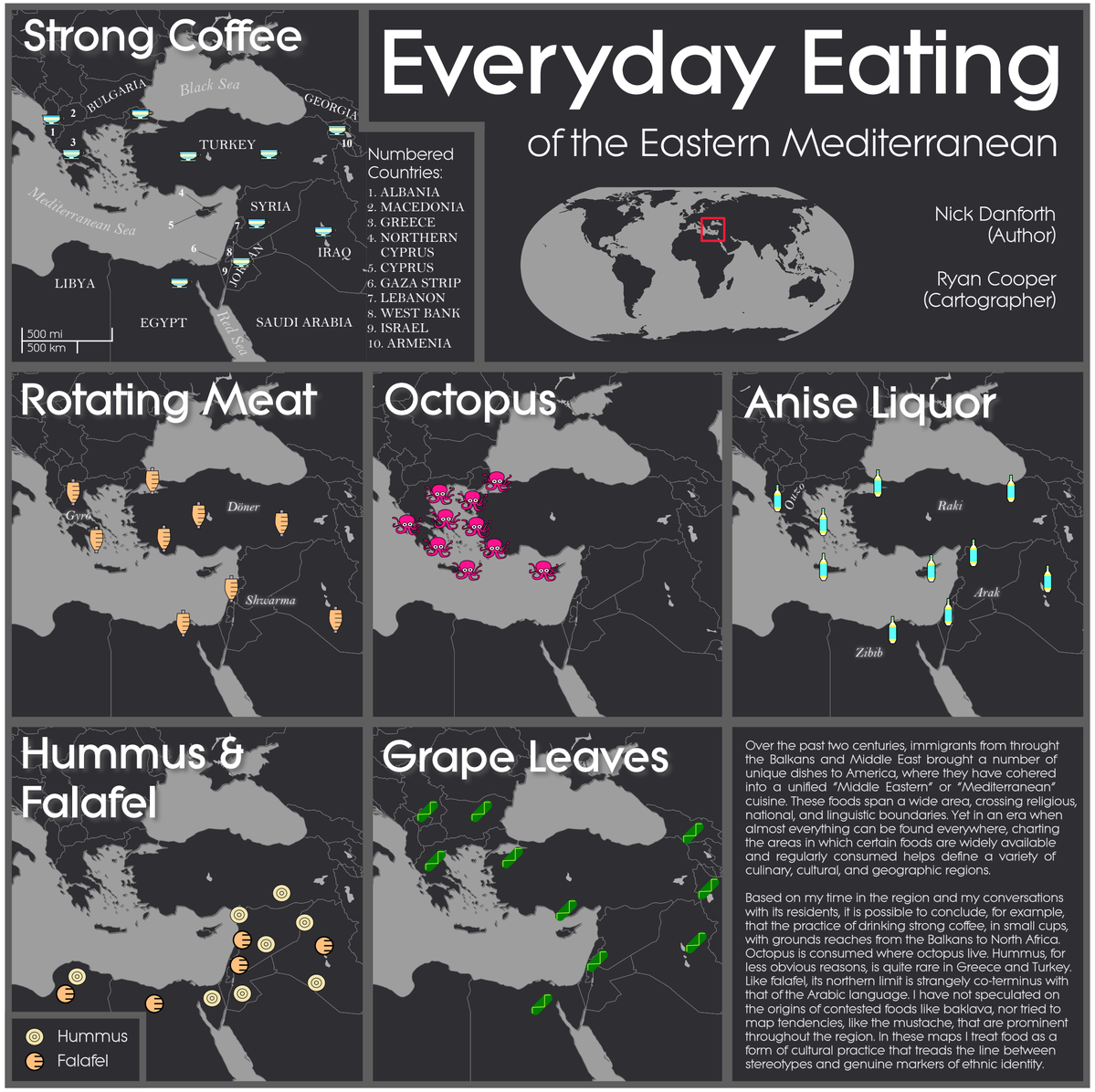
The basic recipe is the same, but the proportion between milk and sugar, the cooking time and the added flavors vary in each region, giving a particular taste, color, and texture. Even when bearing the same name, the sweet is different from one country to another.

So diverse are these treats, many consider them local specialties. By creating uniform products, large food companies cannot compete with handicraft products in the market.

Data Sources: Shaded Relief (Ellen Kuzdro, Tom Patterson), Countries (ESRI), Text (Esther Katz)

A Short History

8th Century	16th	17th - 18th	19th	20th	21st
The Arabs bring sugar cane and sugar processing techniques to Spain, borrowed from India.	Sugar cane and milk-producing livestock come to Latin America by Spanish and Portuguese colonizers.	Colonizers occupy lands with low native populations and set up cattle ranches.	Recipes for milk sweets appear in the first Latin American recipe books.	Trade increases in towns, near roads or railroad stations.	Argentina and Uruguay claim *dulce de leche* as gastronomical heritage.

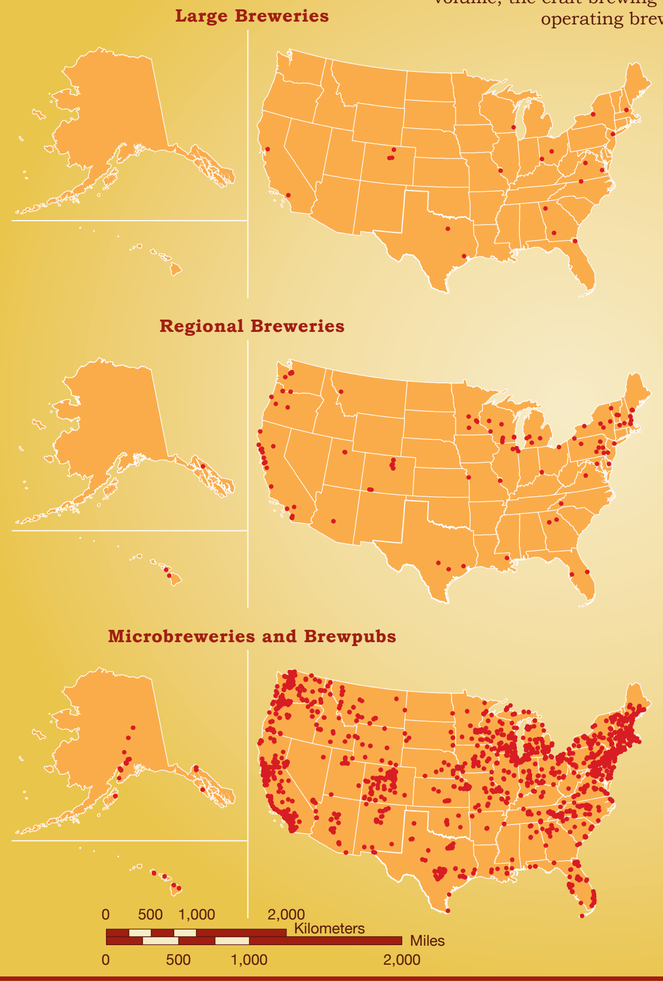

Strong Coffee
Black Sea
BULGARIA
GEORGIA
TURKEY
Mediterranean Sea
SYRIA
IRAQ
JORDAN
LIBYA
EGYPT
SAUDI ARABIA
Red Sea
500 mi
500 km
Numbered Countries:
1. ALBANIA
2. MACEDONIA
3. GREECE
4. NORTHERN CYPRUS
5. CYPRUS
6. GAZA STRIP
7. LEBANON
8. WEST BANK
9. ISRAEL
10. ARMENIA
Everyday Eating
of the Eastern Mediterranean
Nick Danforth (Author)
Ryan Cooper (Cartographer)
Rotating Meat
Gyro
Döner
Shwarma
Octopus
Anise Liquor
Ouzo
Raki
Arak
Zibib
Hummus & Falafel
Hummus
Falafel
Grape Leaves
Over the past two centuries, immigrants from throught the Balkans and Middle East brought a number of unique dishes to America, where they have cohered into a unified "Middle Eastern" or "Mediterranean" cuisine. These foods span a wide area, crossing religious, national, and linguistic boundaries. Yet in an era when almost everything can be found everywhere, charting the areas in which certain foods are widely available and regularly consumed helps define a variety of culinary, cultural, and geographic regions.
Based on my time in the region and my conversations with its residents, it is possible to conclude, for example, that the practice of drinking strong coffee, in small cups, with grounds reaches from the Balkans to North Africa. Octopus is consumed where octopus live. Hummus, for less obvious reasons, is quite rare in Greece and Turkey. Like falafel, its northern limit is strangely co-terminus with that of the Arabic language. I have not speculated on the origins of contested foods like baklava, nor tried to map tendencies, like the mustache, that are prominent throughout the region. In these maps I treat food as a form of cultural practice that treads the line between stereotypes and genuine markers of ethnic identity.

Craft Brewing in the USA

Cameron Reed

CRAFT BREWING IN THE USA

Craft breweries are small, independent, and known for making delicious and distinctive beers. They use traditional ingredients like malted barley, but may also experiment with other ingredients like fruits and spices to create unique brews. While large breweries still control nearly 95% of the US beer market by volume, the craft brewing industry has been growing, with the number of operating brewers doubling since 2005.

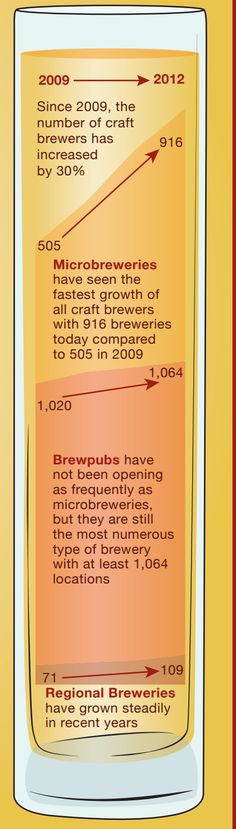


Large Brewery
Annual beer production of over 6,000,000 barrels

Regional Brewery
Annual beer production between 15,000 and 6,000,000 barrels

Microbrewery
Annual beer production of less than 15,000 barrels

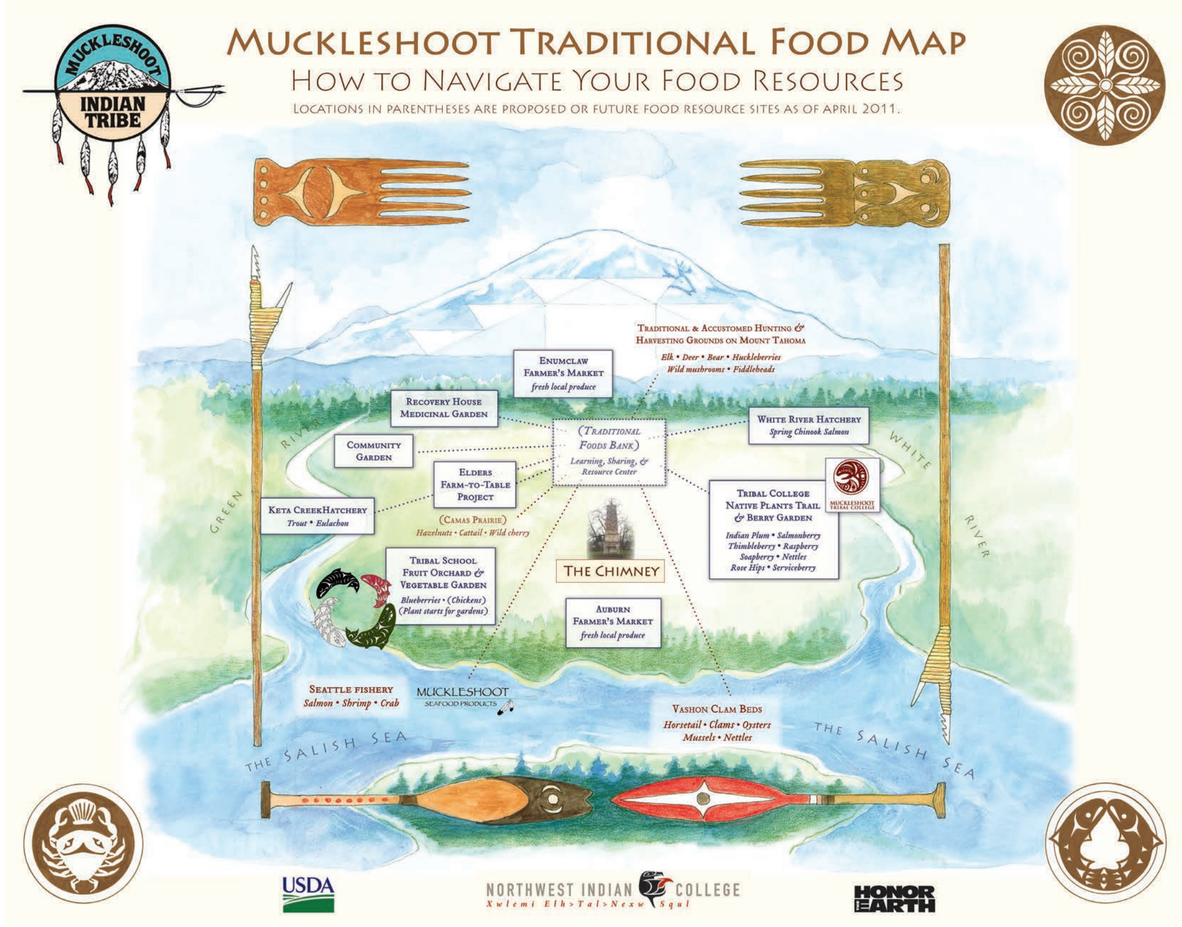
Brewpub
Restaurant-brewery that sells 25% or more of its beer on site



By Cameron Reed
Source: Brewers Association

Muckleshoot Traditional Food Map

Annie Brulé, Roger Fernandes, Valerie Segrest



The Muckleshoot Traditional Food Map represents the food system of the Muckleshoot Tribe of Indians in Washington State. Breaking free of GIS-based mapping methodologies, the cartography team opted early on for more culturally-appropriate ways of representing a food system, recognizing that in order for the information to resonate with a majority of tribe members (the intended audience), it would need to feel like the place it represents—not only "resources," but "home."

The map is both an historical view of traditional hunting, fishing, and gathering areas the tribe has utilized for millenia, and also, most importantly, an envisioning of new community food resources that can serve the tribe in their current quest for greater food sovereignty and connection with the traditional diet that has sustained and kept their culture healthy for thousands of years. It is innovative in its use of map-making as a dynamic tool for change and jointly-envisioned community development. This is a reflection of what has been called a "cultural renaissance" among many Northwest tribes, who are recovering their traditions and culture through hunting, gathering, preparing, and sharing their native foods.

The map is a key piece of the Muckleshoot Food Sovereignty Project, a multi-year, intergenerational effort to increase knowledge and access to traditional foods through celebrations, classes, garden projects, and even a Traditional Food Bank. Project leader Valerie Segrest, an enrolled Muckleshoot tribe member, brought in community-based cartographer Annie Brulé to lead the mapping work, and native storyteller and artist Roger Fernandes to weave story into the process. The map is a product of the combined knowledge and vision of multiple tribe members who advised its creation and ensured the final image would be received equally well by tribal leaders, granting bodies, and families, who are using the knowledge and information it contains in their daily lives and food choices.

Produced under the guidance of Muckleshoot community members by the team of Annie Brulé (community mapping specialist), Roger Fernandes (Lower Elwha S'Klallam), and Valerie Segrest (Muckleshoot), with funding from the Northwest Indian College, the United States Department of Agriculture, and the Honor the Earth Foundation.

Zachary Nowak & Annita Lucchesi

The Salt War of 1540 and the Pope's Bread: A Cartographic Refutation of a Perugian Urban Legend

The traditional bread in the central Italian city of Perugia is locally known as *pane sciapo* (unsalted bread), and is made without salt. According to inhabitants of Perugia, their ancestors stopped putting salt in their bread after the imposition of a burdensome new tax on salt by Pope Paul III in 1540. Perugia was at the time part of the Papal States, a swath of territory controlled by the medieval and Renaissance popes. Is this a historical event-turned-cuisine, or just another food myth? Cartography can provide us with an answer to this riddle.

sources: original research, *Pervsini* (Egnazio Dante; 1584)

Zachary Nowak, with Annita Lucchesi

If Perugians turned to unsalted bread after the imposition of the salt tax in 1540, we would expect to find unsalted bread only in the area that the city controlled in 1540. It's possible, though, that other residents of the Papal States reacted the same way to the 1540 tax: in this case we would find unsalted bread in all of the territory the Vatican controlled in 1540.

As is evident, there is a very large swath of territory where one finds unsalted bread as the principal bread. Does this match the "territory of unsalted bread"? Cartography makes it clear that the boundaries of unsalted bread don't match up with Perugian territory or the Papal States in 1540.

Photo: Flickr user Pietro Izzo

"The bread here is made with a tiny amount of salt, as Umbria belonged to the pope, and vexed by taxes the city responded like this to a tax on the consumption of salt which in 1540 set off a war." -- Rita Boini

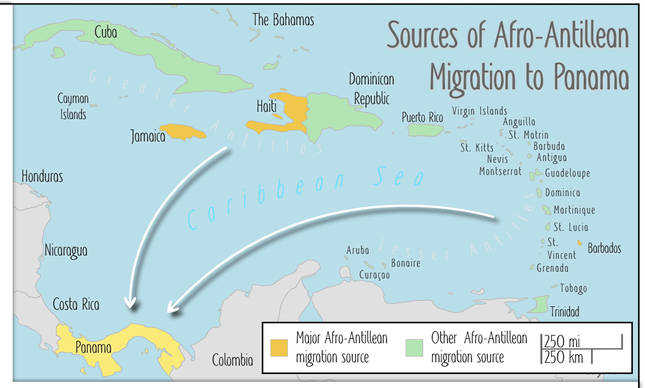
Carla Guerrón-Montero & Ryan Cooper

Rice, Beans & A Pot

Food as an Expression of Afro-Antillean Identity in the Archipelago of Bocas del Toro, Panama

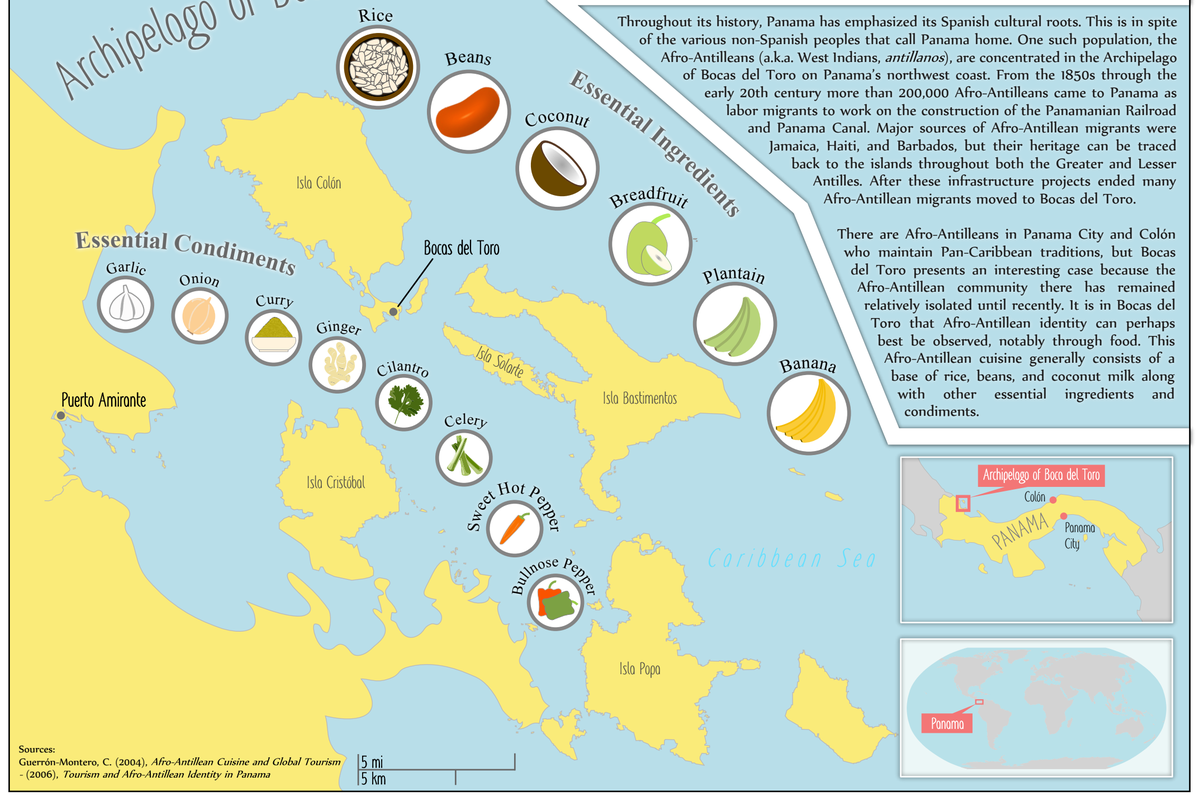
By Dr. Carla Guerrón-Montero (Author, Researcher) &
Ryan Cooper (Cartographer)

Sources of Afro-Antillean Migration to Panama



Throughout its history, Panama has emphasized its Spanish cultural roots. This is in spite of the various non-Spanish peoples that call Panama home. One such population, the Afro-Antilleans (a.k.a. West Indians, *antillanos*), are concentrated in the Archipelago of Bocas del Toro on Panama's northwest coast. From the 1850s through the early 20th century more than 200,000 Afro-Antilleans came to Panama as labor migrants to work on the construction of the Panamanian Railroad and Panama Canal. Major sources of Afro-Antillean migrants were Jamaica, Haiti, and Barbados, but their heritage can be traced back to the islands throughout both the Greater and Lesser Antilles. After these infrastructure projects ended many Afro-Antillean migrants moved to Bocas del Toro.

There are Afro-Antilleans in Panama City and Colón who maintain Pan-Caribbean traditions, but Bocas del Toro presents an interesting case because the Afro-Antillean community there has remained relatively isolated until recently. It is in Bocas del Toro that Afro-Antillean identity can perhaps best be observed, notably through food. This Afro-Antillean cuisine generally consists of a base of rice, beans, and coconut milk along with other essential ingredients and condiments.



Tacos de Oakland: Taco Trucks of East Oakland

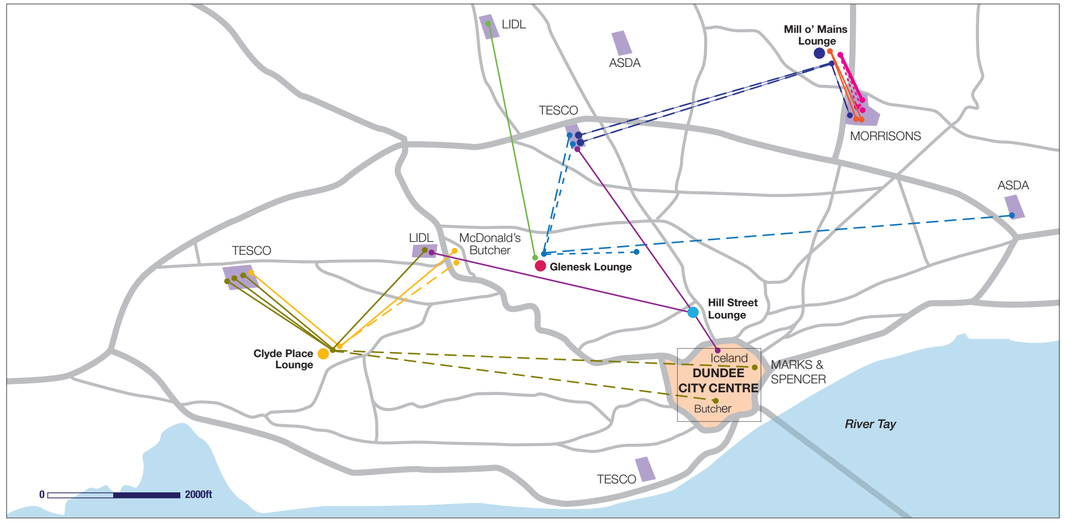
Nica Powell & Mark Bischoff

— next pages —

Mapping Movement Through Food Purchase 2012
Mapping Memories of Food from the 1950s

Jackie Malcolm

MAPPING MOVEMENT THROUGH FOOD PURCHASE 2012



MODE OF TRANSPORT

taxi	mobility scooter	Susan	Aged 66	Mill o' Mains Lounge
bus		Angela	Aged 87	Mill o' Mains Lounge
car		David	Aged 75	Mill o' Mains Lounge
car		Catherine	Aged 97	Glenesk Lounge - Son's car, he is 61
walking	bus	Jessie	Aged 67	Glenesk Lounge
car	bus	Bella	Aged 73	Clyde Place Lounge - taken by family in car
car	bus	Jane	Aged 77	Clyde Place Lounge
car		Margaret	Aged 70s	Hill Street Lounge - husband does shopping in car

Area shown on Map 2

The maps displayed on these pages convey the extent to which shopping for food has migrated from a city centre experience in the 1950s, to the edge of city supermarkets that now line the arterial routes of the city of Dundee, Scotland.

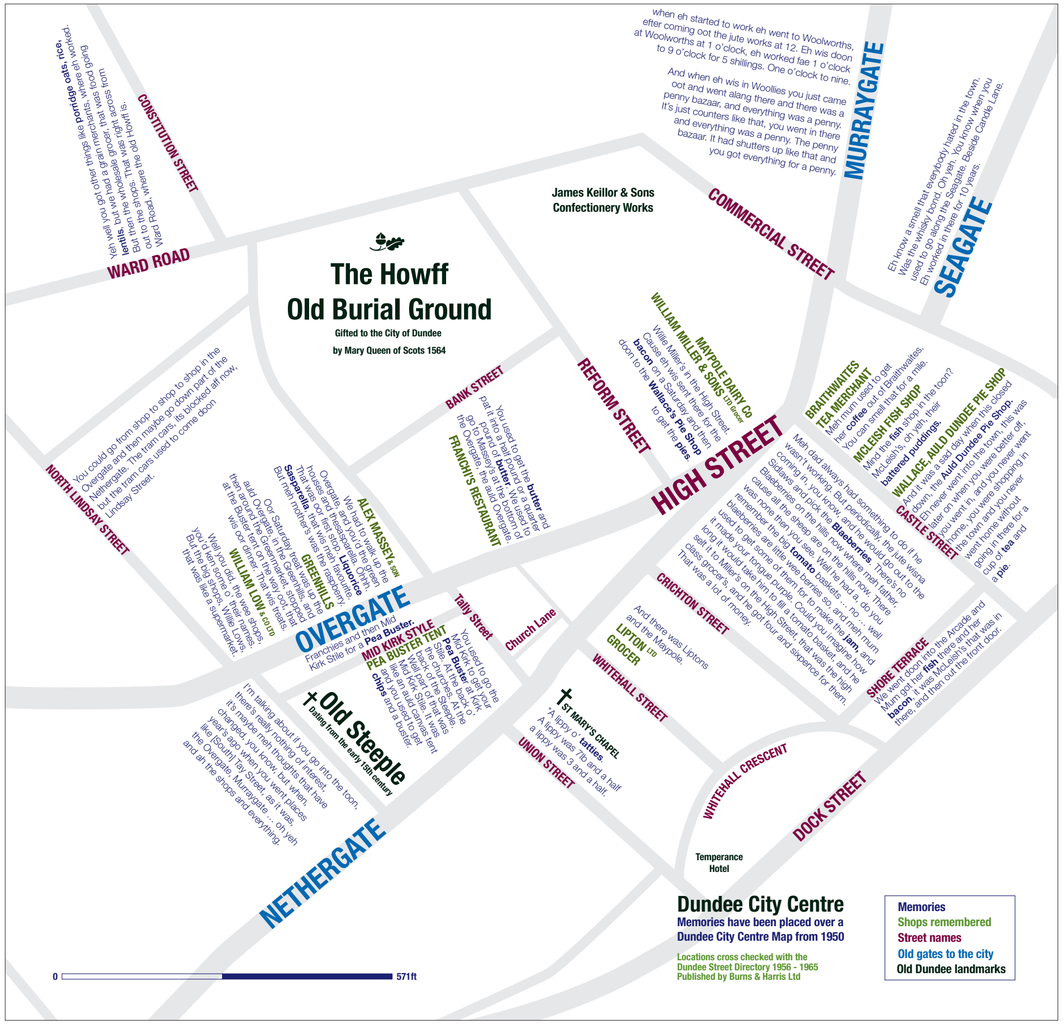
Movement above, visualises the contemporary patterns of movement of a group of elderly people over the course of a week, when shopping for food. The elderly people all lived in sheltered housing accommodation within suburbs of the city at four separate locations. Each of these locations have a central community lounge where the elderly can meet and engage in social activities. What is significant about this map is that it communicates how seldom the elderly people of Dundee visited the city centre to buy their food. Most used public transport or relied upon relatives to take them by car, and one participant used her mobility scooter to visit the local supermarkets. Margaret, although living more centrally, travelled to the supermarkets on the outer ring road of the city.

If we contrast this map with **Memories** on the opposite page we can observe the change that has occurred in Dundee when people shop for their food. Memories of food were gathered at 4 discussion groups held within the community lounges. Mapping the memories of the elderly people who contributed to this research, communicates the spatial and temporal dimensions that were contained within their remembrances. Using a map of Dundee City Centre from 1950 as a base layer, the memories narrated by the elderly were placed at the exact locations where the food shops had once stood. To ensure accuracy, names of premises and their locations were cross checked with a Dundee Street Directory, published by Burns & Harris in 1946-47.

Observing the contemporary and historical patterns of movement through food purchase, and through memories, highlighted the differences in past and present consumer habits, whilst locating the significance of place within the temporal dimensions of memories for the elderly people of Dundee.

by Jackie Malcolm

MAPPING MEMORIES OF FOOD FROM THE 1950s



Allmende-Kontor Community Garden

Dörte Martens, Lisa Welsby, Elisabeth Biederbick, Severin Halder, Matthias Jung, Fabian Singelnstein

Allmende-Kontor (AK) is the result of a long-lasting commitment to community gardening by activists from various gardening projects in Berlin. AK supports participatory city development at all levels and seeks reclamation of the city for public use.

The AK is active in local and global education and networking. It supports self-supply and cooperation between gardening projects in Berlin and beyond. By practicing subsistence farming AK aims at raising awareness of food sovereignty, as well as development and empowerment of the urban gardening and agriculture movement.

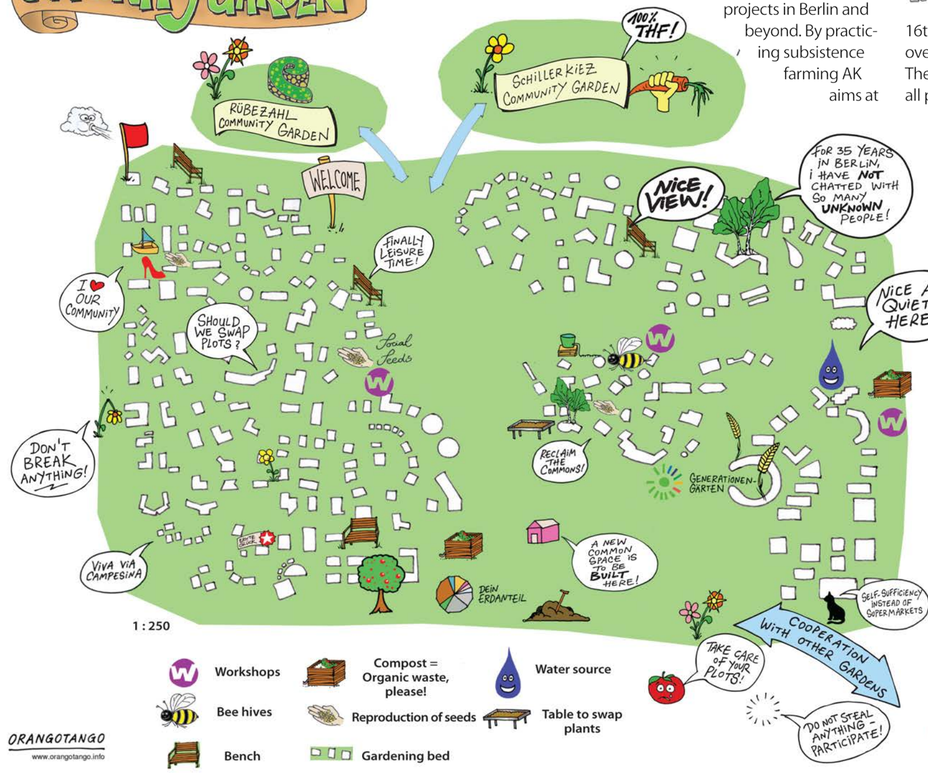
The **AK community garden** began on April 16th, 2011 and is now home of over 300 beds and 700 gardeners. The community gardeners and all participants of the project are asked to share the ideas and the guidelines for social and ecological cooperation.

This map is the result of a collective mapping workshop of the collective Orangotango, which included gardeners and AK organizers, at an evaluation event after the first gardening season on November 25th, 2011.

AK is a voluntary and non-profit (in a monetary sense) project, relying fundamentally on donations. Expenses include the gardening area, soil, bed construction material, tools, workshops, etc; thus, any kind of support is greatly appreciated.

Thanks to all participants!

Translation: Dörte Martens & Lisa Welsby



ORANGOTANGO
www.orangotango.info

Contact:
phone: 0176/32614055, 030/21461472
email: info@allmende-kontor.de
www.allmende-kontor.de

Guidelines for Social and Ecological Cooperation

To all:

- Please do not leave any litter!
- Do not steal - instead: participate!
- Please do not build new raised beds
- Get active, but do not destroy anything!
- Participation is at your own risk.
- Donations are appreciated.

To gardeners:

Formal specifications

- Do not dig into the ground.
- The gardening plots are only given away temporarily
- Raised bed extension? - See information signs
- Avoid any risk of injury when building plot constructions.
- Do not store any construction material.
- Please obey the park rules .

Social guidelines:

- Form plot communities: build, plant and water commonly.
- Organize yourselves and inform the AK about your contacts, your self-organized initiatives, abandoned plot, etc.
- Be aware of density and height when building.
- Do not limit others, or their view.

Ecological guidelines:

- Try to garden as ecologically as possible. Please do not use (agro-)chemicals such as fertilizer. Please be aware to use as few hybrid species as possible.
- Be aware of saving resources (such as water, soil and wood)
- Raised beds can be built by recycled material, but please use "natural" material whenever possible (no styrofoam, avoid plastic)

The Landscape We Eat

Seth Denizen & Tat Bonvehi

Mar y Montaña | Mountain and Sea: is a traditional dish from the northern coast of Spain which combine flavours and ingredients from the land and sea.
Mugaritz recipe: Loin of blue mackerel, coated with an infusion of crushed sesame seeds and milk skin, in a vegetable broth from onions, chickpeas, carrots, and leek. Olive oil and salt.

THE LANDSCAPE WE EAT

A recipe is more than the food it is made of: the geography of our dinner spills off of the plate.
Mugaritz Rest. Herrenteria. Basque Country. Spain
Authors: Seth Denizen/Tat Bonvehi.

map notes

Map data sources and projections, where available, arranged by page number.

13. Harvesting The World. Bill Rankin (Yale University, radicalcartography.net). **Sources** Navin Ramankutty, Jonathan Foley. 2011. Global Cropland and Pasture Data from 1700–2007. Beta release. **Projection** Eckert IV with central meridian at 10° E.

15. Foodscapes. Benjamin D Hennig (University of Sheffield). **Sources** Ramankutty N, Evan AT, Monfreda C, Foley JA. 2010. Socioeconomic Data and Applications Center (SEDAC), Columbia University, Palisades, NY. **Projection** (custom) 'Gridded Cartogram.'

17. Aroids: The World's Oldest Food Crop. Karin Vaneker, Erwin Slaats. **Sources** The US Census Bureau; Ramanatha Rao V, Matthews Peter J, Eyzaguirre Pablo B, Hunter D, editors. 2010. *The Global Diversity of Taro: Ethnobotany and Conservation*. Rome: Biodiversity International; Vaneker K. 2013. *Aroid Production and Postharvest Practices* [forthcoming] *in Encyclopedia of Food and Agricultural Ethics*. Paul B Thompson, David M Kaplan, editors. Springer Verlag; Vaneker K, Slaats E. 2013. *Mapping Edible Aroids* [forthcoming] In *Glide12—Global Interaction in Design*. A Bennet, editor. Troy, NY: Baohause.org.

19. The World According to Chile Peppers. Gerald Zhang-Schmidt (chilicult.com), Crystalyn DelaCruz. **Sources** Shapefiles from diva-gis.org.

21. The Grain Necessities. Kamini Iyer (University of California, Berkeley CAGE Lab). **Sources** Ministry of Agriculture, Government of India.

23. A Landscape of Specialization. Bill Rankin (Yale University, radicalcartography.net). **Sources** US Census of Agriculture, 2007. **Projection** Albers Equal-Area Conic.

25. The American Beershed. Cameron Reed (University of California, Berkeley CAGE Lab). **Sources** Brewers Association directory of US breweries. **Projection** USA Contiguous Albers Equal Area Conic.

27. Fungus AmongUS. Shannon Kail (University of Wisconsin, Milwaukee), Terra N Tice (University of California, Berkeley CAGE Lab). **Sources** Mushroom farm location data: The Mushroom Growers' Newsletter; Top States Production percentages, USDA; Mushroom story: American Mushroom Institute. **Projection** Lambert Conformal Conic (48 states, Mexico, Canada), Transverse Mercator NAD1983 (Hawaii), World Mercator (Alaska).

29. Commodity Agriculture and Subsidies. Urban Design Lab (The Earth Institute, Columbia University). **Sources** USDA National Agriculture Statistics Service.

31. Wealth and Agricultural Subsidies in the European Union. Chris Carson (University of California, Berkeley CAGE Lab). **Sources** Europa.eu; Farmsubsidy.org.

33. Protecting Food Specialities in the EU. Giuliano Petrarulo. **Sources** UE official website (europa.eu); the Foundation for the protection and the valorization of quality agri-food products.

35. Made in the Shade: Bird Friendly Coffee. Anika Rice (University of California, Berkeley CAGE Lab). **Sources** Smithsonian Migratory Bird Center.

37. *Oenocarpus bataua*: the Original Amazonian Superfood. Paul VA Fine & Sarah Lewis (University of California, Berkeley), Tarek Milleron (Caura Futures, Inc). **Sources** Balick MJ. 1988. *Jessenia* and *Oenocarpus*: neotropical oil palms worthy of domestication. Food and Agriculture Organization, Rome; Balick MJ, Gershoff SN. 1981. Nutritional evaluation of the *Jessenia bataua* palm: source of high quality protein and oil from tropical America. Economic Botany 35(3): 261–271; Brokamp G, Valderrama N, Mittelbach M, Grandez RCA, Barfod AS, Weigend M. 2011. Trade in palm products in northwestern South America. *Botanical Review* 77: 571–606; Henderson A. 1995. *Palms of the Amazon*, Oxford University Press; Henderson A, Galeano G, Bernal R. 1997. *Field Guide to Palms of the Americas*. Princeton University Press; Marmolejo D, Montes ME, Bernal R. 2008. Nombres amerindios de las palmas (Palmae) de Colombia. *Revista Peruana de Biologia* 15(supl. 1): 151–190; Morcote-Rios, G, Bernal R. 2001. Remains of palms (Palmae) at archeological sites in the New World: a review. *The botanical review* 67(3): 309–350; Zent M. personal communication.

39. California's Growing Organic Farm Movement. Michele S Forman, Terra N Tice (University of California, Berkeley CAGE Lab). **Sources** California Department of Agriculture, Organic Division; Michael Pollan, UC Berkeley Department of Journalism; Karen Klonsky, Dept of Agricultural and Resource Economics, University of California, Davis. **Projection** California Teale Albers.

41. Maryland Meat Maps. Amanda Behrens, Julia Simons, James Harding, Michael Milli (Johns Hopkins Center for a Livable Future) **Sources** USDA Food Safety and Inspection Service, 2012 Meat, Poultry and Egg Product Inspection Directory; University of Maryland Extension, 2009; USDA Inspected Facilities/Products and Services in Maryland; University of Maryland Extension, 2009 Slaughter and/or Process Facilities in Maryland; Maryland Department of Agriculture, Food Quality Assurance Program, 2012 Rabbit and Poultry On-Farm Slaughter/Processing Program; USDA Census of Agriculture, 2007. **Projection** NAD 1983 State Plane Maryland.

43. Texas Seafood Landings. Robyn Metcalfe (The Food Lab, University of Texas, Austin), Jeff Ingebritsen (Mapping the Delicious). **Sources** Texas Parks and Wildlife Department and the National Oceanic and Atmospheric Administration. **Projection** Lambert Conformal Conic.

45. The Garden City: Los Angeles, 1940. Alex Tarr (University of California, Berkeley), Rosten Woo. **Sources** Land Use Survey, County of Los Angeles; Classification of Land uses. A report on WPA project L9785; Official Project No. 665–07–3–65. The Regional Planning Commission, Los Angeles, CA, 1940; GIS: 1940 Census Tracts provided by: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. **Projection** USA Contiguous Albers Equal Area Conic.

46. Potential Rooftop Farming in New York City. Urban Design Lab (The Earth Institute, Columbia University). **Sources** NYC Department of Information Technology and Telecommunications; NYC Department of City Planning.

47. Food Production in New York City. Urban Design Lab (The Earth Institute, Columbia University). **Sources** Mara Gittleman/Farming Concrete, Tyler Caruso/Thread Collective.

49. Compost Green Map of Manhattan: Worms in the Green Apple. Wendy Brawer, Carlos Martinez, Amya Farquhar, Jane Barber, Risa Ishikawa, Andrew Sass, Aaron Reiss (Green Map System). **Sources** Site research by Green Map System, Lower East Side Ecology Center, GrowNYC, New York University Sustainability, Green Thumb Grow Together participants, the Manhattan Borough President's Office, and the general public; Base Map courtesy of the NYC Cycling Map of NYC Department of City Planning, Transportation Division, Bicycle Network Development Program & Bytes of the Big Apple DCP Lion File. © Department of City Planning.

51. Toronto's Eco Schools: From Food Waste to Food Gardens. Asya Bidordinova & Tammara Soma (University of Toronto), Vick Naresh (Iridium Art). **Sources** Open Data—City of Toronto.

55. Food in Flux: The World of Imports. Chelsea Guerrero (University of California, Berkeley CAGE Lab). **Sources** Food and Agriculture Organization 2005–2007, 2010.

57. Global Almond Trade and California. Garrett Bradford (University of California, Berkeley CAGE Lab). **Sources** FAOSTAT and the Almond Board of California. **Projection** Peirce quincuncial.

59. A Tomato's European Tour. Lucia Argüelles (Autonomous University of Barcelona), Jennifer Lara (Guatamala). **Sources** Food imports and exports by country and by item, 2009. Faostat; Population 2009. Population Reference Bureau, 2009. World Population data sheet.

61. The Distance Food Will Go to Be Eaten: A Food Mile Comparison. Diana Martin (Austin Community College). **Sources** City of Austin: GIS Data sets, Capital Area Council of Governments (CAPCOG), Environmental Systems Research Institute (ESRI). **Projection** USA Contiguous Equidistant Conic (USA), NAD 1983 State Plane Texas Central FIPS 4203 Feet (Texas).

63. A Geography of Illinois Wheat. Sarah Kavage. **Sources** Illinois county level crop production data from the National Agricultural Statistics Service, 2005–2006; Data on the distribution of wheat uses from the report Wheat Year in Review (Domestic), November 2008, Economic Research Service division, USDA. **Projection** Hand-drawn, based on a Lambert Conformal Conic.

64–65. Fresh Catch: Community Supported Fishery in Massachusetts; Farm to Table: Community Supported Agriculture in Massachusetts. Steven E Silvern & Milan Budhathoki (Salem State University). **Sources** Salem State University Survey of Community Supported Agriculture, December 2011, Local Harvest Local Catch, Massachusetts Department of Agriculture, Community Involved in Sustainable Agriculture, Northeastern Atlantic Marine Alliance.

67. Food Labels: Branding Place of Origin. Alicia Fisher & Ryan Cooper (University of Kentucky), John-Mark Hack (Local Foods Association), Benjamin Golder. **Sources** Food Alliance, Appalachian Sustainable Agriculture Project, OpenStreetMap, US Census 2010.

69. Berkeley's Farmers' Markets. Cameron Reed (University of California, Berkeley CAGE Lab). **Source** The Ecology Center.

70. Fallen Fruit. David Burns, Matias Viegener, Austin

Young (Fallen Fruit). **Source** Data ground-truthed by Fallen Fruit.

75. Global Imbalance in the Availability of Nutritious Food. Lucia Argüelles (Autonomous University of Barcelona), Jennifer Lara (Guatemala). **Sources** Obesity data from 2010 WHO database; Undernourishment data from 2005–2007. FAO 2009. The state of food insecurity in the world; Population 2009. Population Reference Bureau, 2009. World Population data sheet; Food consumption by country and by item for 2009. FAOSTAT.

77. Land For Sale: The New Trend of Commercial Pressures on Land in Sub-Saharan Africa. Lucia Argüelles (Autonomous University of Barcelona), Jennifer Lara (Guatemala). **Sources** Land acquired or targeted for agricultural purposes in Sub-Saharan Africa. Land matrix: Landportal.info.

79. Threats to Indigenous Food Traditions in North America. Annita Lucchesi (University of California, Berkeley CAGE Lab). **Sources** Alaska Dispatch, Environmental & Food Justice (blog), Indian Country Today Media Network, Klamath Media, Longhouse Media, The Tyee, Think Mexican; Photos by Ansgar Walk, Chemoqua, Jeremy Stapleton, NarparMI, Patrick McCully, US EPA, US Fish & Wildlife Service, Zureks.

81. Food Insecurity & Indigenous Communities in Canada's North. Annita Lucchesi (University of California, Berkeley CAGE Lab). **Sources** Canada census (2006 edition); original research (online survey, assisted by indigenous activists and Feeding My Family, a Nunavummiut-led food security organization.

83. Canadian Food Networks: Propagating the Food Movement. Charles Z Levkoe (University of Toronto), Claudia Dávila. **Sources** Adapted from a Briarpatch Magazine special issue on decolonializing food, September/October 2011. We gratefully acknowledge the work of Shayna Stock and Sarah Wakefield. The research for the map was part of a project entitled Understanding Scale and Networks in Social Mobilization: A Case Study of the Community Food Security Movement in Canada and was supported through a grant from Social Sciences and Humanities Research Council of Canada.

85. Which Came First, Food Policy or Food Hub? Alicia Fisher (University of Kentucky), Gabriele Ciciurkaite, Benjamin Golder. **Sources** Farmers Market Data: USDA Agricultural Marketing Survey National Farmers Market Directory. Geographic Coordinates Spreadsheet for US Farmers Markets (10–2010); SNAP/Food Stamp User Data: American FactFinder—US Census Bureau & American Community Survey; Cartographic Boundaries for SNAP/Food Stamp Data: US Census Bureau. **Projection** USA Contiguous Albers Equal Area Conic, NAD 1983.

87. Working For Justice Along the Food Chain. John de Goede, Alex Tarr (University of California, Berkeley). **Source** Food Chain Workers Alliance.

89. Farmers Markets: Accessible to All? Margaret Raimann (University of Wisconsin, Madison). **Sources** Farmers Market Data: USDA Agricultural Marketing Survey National Farmers Market Directory "Geographic Coordinates Spreadsheet for US Farmers Markets" (10–2010); SNAP/Food Stamp User Data: American FactFinder, US Census Bureau & American Community Survey; Cartographic Boundaries for SNAP/Food Stamp Data: US Census Bureau. **Projection** USA Contiguous Albers Equal Area Conic, NAD 1983.

91. The Rise of Foodbanks in England. Mark A Green & Hannah Lambie-Mumford (University of Sheffield). **Sources** Unemployment and population data for 2010–2011 can be found at the Local Authority level from 'Neighbourhood Statistics,' an ONS run data bank. Locations of the Foodbanks of the Trussell Trust are found on their website: trusselltrust.org. Data on food given out by each foodbank is found from the annual reports compiled by the Trussel Trust. **Projection** OSGB 1936/British National Grid, Transverse Mercator.

93. Securing Food and Frontiers in Okinawa, Japan. Emma Tome (University of California, Berkeley CAGE Lab). **Sources** *The Historical Atlas of Okinawa*. 1981; *Topographic Maps of the Ryukyu Islands*. 1921. pp 22–39; *ESRI media disc base data*, 2010, Redlands, CA; *US Military Bases and Areas in Okinawa*. **Projection** Japan zone 15.

95. Collecting Food Surplus in Northeastern Italy. Giuliano Petrarulo. **Sources** Banco Alimentare.

96. Another Pampa is Possible!!! Iconoclasistas. **Sources** Collective mapping workshops: Pañuelos en Rebeldía/Popular Pedagogy. Buenos Aires, 2008; Escuela de Ciencias de la Información/National University of Cordoba. Córdoba, 2008; Casa 13/independent art space. Córdoba, 2008; Facultad de Ciencias Económicas/National University of Rosario. Rosario, Santa Fe, 2008; Centro Cultural La Toma/independent cultural and politic space. Rosario, Santa Fe, 2008; Unión de Asambleas Ciudadanas/Social and environmental assemblies against the plundering of natural resources. Córdoba, 2009; the many people who participated in Collective mapping workshops in Tandil, Olavarría, San Andrés de Giles, and La Plata. Buenos Aires, 2009.

99. Regional Food Resilience: Mapping Potential Adaptations to San Francisco Bay Area's Food System. N Claire Napawan (University of California, Davis), Ellen Burke (Grow-City.org). **Sources** San Francisco Bay Conservation and Development Commission, USGS, Farmland Mapping and Monitoring Program.

101. Local Food in Santa Clara County. Brian Fulfrost. **Sources** Greenbelt Alliance, American Community Survey, BFA, Public Health Law and Policy. **Projection** CA State Plane, Zone 3, NAD83.

103. Modified Retail Food Environment Index in Santa Clara County. Brian Fulfrost. **Sources** Center for Disease Control and Prevention, California Nutrition Network, USDA. **Projection** CA State Plane, Zone 3, NAD83.

105. Baltimore City Food Swamps. Amanda Behrens, Julia Simons, James Harding, Michael Milli (Johns Hopkins Center for a Livable Future). **Sources** Johns Hopkins Center for a Livable Future, ESRI Updated Demographics (2010/2015), 2005–2009 American Community Survey Five Year Estimates, Baltimore City Health Department Food Permit List, 2011. **Projection** Lambert Conformal Conic.

106–107. Starving for Fresh Food: Food Deserts in Los Angeles; Drowning in Fast Food: Food Swamps in Los Angeles. Kae Yamane (Rutgers). **Sources** Food Desert to Food Oasis: Promoting Grocery Store Development in South Los Angeles, Community Health Councils, July 2010; The Los Angeles Times: Mapping L. A. Project; Network for a Healthy California—GIS Map Viewer; California Department of Public Health, 2011; Jennifer Medina. In South Los Angeles, New Fast-Food Spots Get a 'No, Thanks'. *The New York Times*. January 15, 2011; Map: Data Desk LA Google Maps.

109. San Francisco Urban Agricultural Projects. Noah Christman, David Peters, Eli Zigas (SPUR), Terra N Tice (University of California, Berkeley). **Sources** Inventory of urban agriculture sites based on data from: Recreation and Parks Department, Community Gardens Program; San Francisco Community Gardens. San Francisco Garden Resource Organization; correspondence with Marvin Yee, Recreation and Parks Department, accessed November 2011; Jean Koch, Presidio Trust; Julia Brashares, San Francisco Parks Alliance; Elizabeth Li; and additional SPUR research.

111. Land Availability in New York City. Urban Design Lab (The Earth Institute, Columbia University). **Sources** MaPLUTO, Mara Gittleman/Farming Concrete.

113. Cultivate the Commons, Urban Agriculture's Potential in Oakland, California. Nathan McClintock (Portland State Univeristy), Jenny Cooper (University of Michigan, Ann Arbor). **Sources** Alameda County; City of Oakland; University of California Cooperative Extension; United States Geological Survey. **Projection** WGS 1984 UTM 10N.

115. Growing Food and Community in West Oakland. Marek K Jakubowski (University of California, Berkeley). **Sources** City Slicker Farms, USGS, ESRI. **Projection** WGS 1984 Web Mercator.

118–125. Mission:Explore Food Cartography. The Geography Collective & City Farmers.

129. Global Gastronomy: An Unofficial Map of National Dishes. Sophia Hussain, Sasha Wizansky (Meatpaper). **Sources** Data was gathered by intrepid internet research.

131. Fermented Foods of the World. Sandor Katz (Author of *The Art of Fermentation* and *Wild Fermentation*), Alex Cole-Weiss (Good Qi Kimchi), Heather Sparks (University of California, Berkeley CAGE Lab). **Sources** Katz S. 2003. *Wild Fermentation*: *The Flavor, Nutrition and Craft of Live-Culture Foods*; base Map: Natural Earth; photography: copyright free from wikimedia. **Projection** North Pole Lambert Equal Area.

133. Global Spaghetti. Cristina Capineri, Michela Teobaldi, Claudio Calvino, Antonella Romano (Laboratorio Ladest). **Sources** Google.com, I.P.O. 2011, UNESCO 2010.

135. Taboo Foods: Food and Drink People Avoid for Religious Reasons. Paolo Dilda, Fabio Manfredini (Politecnico di Milano). **Source** Wikipedia.

137. A Lunchbox Foodshed. Rybners Gymnasium class, Thomas Nielsen, Niels Nielsen, Terra N Tice. **Sources** Class research.

139. Fruity London: Mapping Where London Gets its Fruit From, with Fruit. The Geography Collective UK, Kaitlin Jaffe (University of California, Berkeley, CAGE Lab). **Sources** The Geography Collective, Mission:Explore; Map: webresourcesdepot.com.

141. Undersea Migration: Where Tuna Goes When You're Not Eating It. H R Smith, Audrey Nieh. **Sources** Block BA and others 2011. Tracking apex marine predator movements in a dynamic ocean. *Nature* 475.7354: 86–90.

143. Dulce de Leche. Erica Simek, Esther Katz (Institut de Recherche pour le Développement–France). **Projection** WGS 1984 Lambert Azimuthal Equal Area, Latin American Base Map: Ellen Kuzdro; Global Inset Shaded Relief: Tom Patterson, National Park Service.

147. Craft Brewing in the USA. Cameron Reed (University of California, Berkeley CAGE Lab). **Sources** Brewers Association directory of US breweries (www.brewersassociation.org, accessed 7/23/12). **Projection** Contiguous Albers Equal Area Conic (USA), Albers Equal Area Conic (Alaska), Albers Equal Area Conic (Hawaii).

149. Muckleshoot Traditional Food Map. Annie Brulé (LivingMaps.org, Northwest Indian College Advisory Board), Roger Fernandes, Valerie Segrest. **Sources** Produced under the guidance of Muckleshoot community members.

151. The Salt War. Zachary Nowak (Umbra Institute), Annita Lucchesi (University of California, Berkeley CAGE Lab). **Sources** Original Research, Pervsini (Egnazio Dante 1584)

153. Rice, Beans & A Pot: Food as an Expression of Afro-Antillean Identity in the Archipelago of Bocas del Toro, Panama. Carla Guerrón-Montero (University of Delaware), Ryan Cooper (University of Kentucky). **Sources** Guerrón-Montero, Carla. 2004. Afro-Antillean Cuisine and Global Tourism. *Food, Culture and Society*: *An International Journal of Multidisciplinary Research* 7(2): 29–47; Guerrón-Montero C. 2006. Tourism and Afro-Antillean Identity in Panama. *Journal of Tourism and Cultural Change* 4(2): 65–84; Natural Earth, OpenStreetMap, CC-BY-SA. **Projection** WGS 1984 Web Mercator Auxiliary Sphere.

155. Tacos de Oakland: Taco Trucks of East Oakland. Nica Powell (University of California, Berkeley CAGE Lab), Mark Bischoff. **Sources** Researched by scouting trucks on the ground.

156–157. Mapping Movement Through Food Purchase 2012; Mapping Memories of Food From the 1950s. Jackie Malcolm (University of Dundee). **Sources** Private research 'Food as a trigger for memory: Observing social, spatial and temporal dimensions.' September 2012.

159. Allmende-Kontor Community Garden. Dörte Martens, Elisabeth Biederbick, Lisa Welsby, Severin Halder, Matthias Jung, Fabian Singelnstein (Orangotango). **Sources** Workshops; Drawing of area by Elisabeth Biederbick.

161. The Landscape We Eat. Seth Denizen, Tat Bonvehi. **Sources** Sheet 064–2 and 040–4 (UTM ED50), Departamento de Medio Ambiente, Planificación Territorial, Agricultura y Pesca in 2004; The chefs.

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text notes

Chapter 1: Food Production

1. Food and Agriculture Organization of the United Nations, accessed November 21, 2012.
2. US Census Bureau, accessed November 20, 2012.
3. Food and Agriculture Organization of the United Nations, accessed November 21, 2012.

Chapter 3: Food Security

1. 24 February 2011. How much is enough? *The Economist*.
2. Food and Agriculture Organization of the United Nations, accessed November 21, 2012

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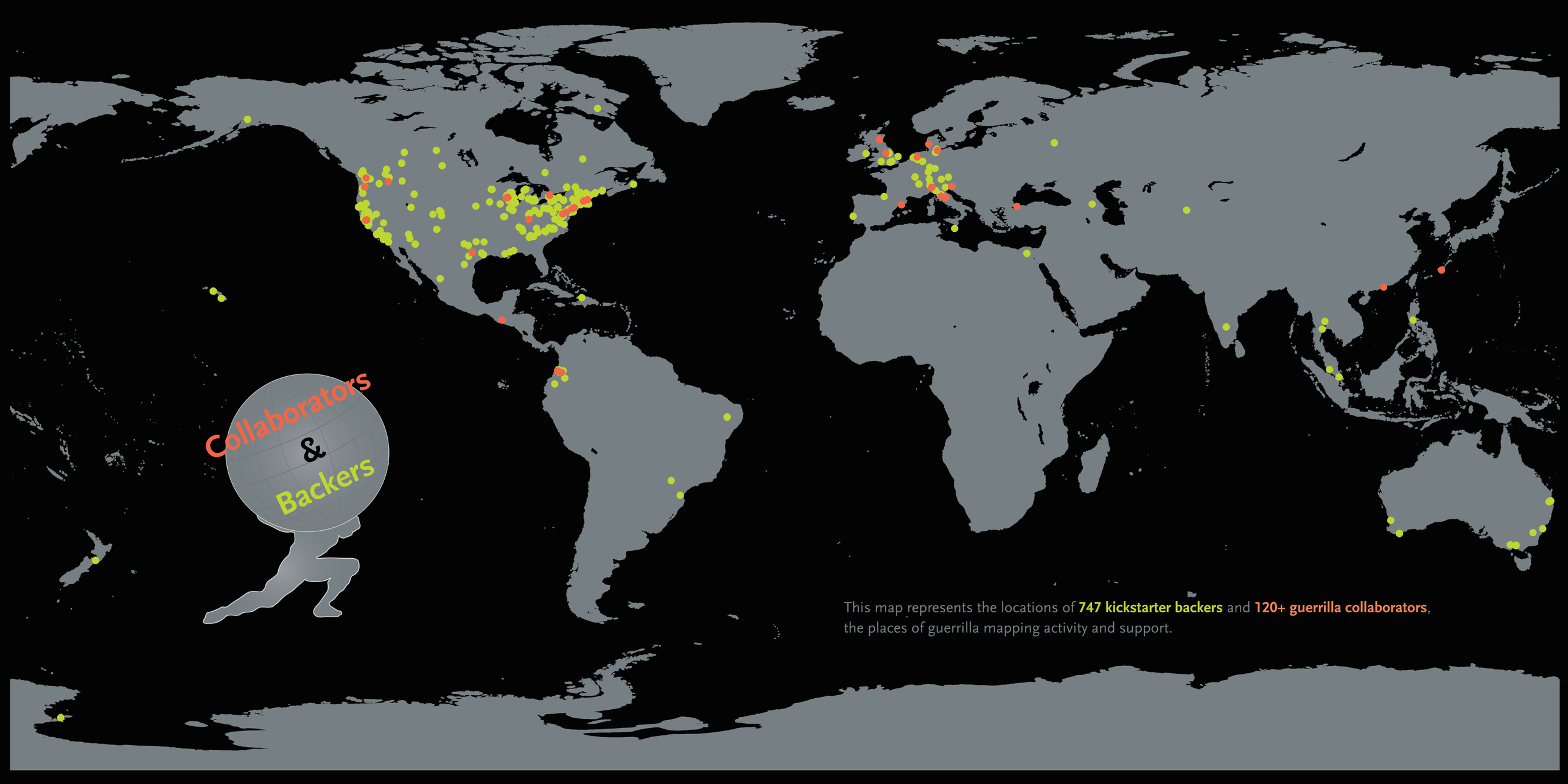

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A greenhorn is a new farmer.

Greenhorns is entering its sixth year as a non-traditional, grassroots organization for young farmers. Their mission is to promote, recruit, and support new entrants into American agriculture.

Agriculture's decline is apparent in every rural town in this country: farmers are retiring, farms are closing and consolidating, and the farming practice that predominates is a monoculture of commodity crops. Meanwhile, local healthy food has become difficult for people to find and afford. This is the injustice our movement seeks to repair.

We need many new farmers in this country to steward the land, to build a new food system that is regionally focused, just, and sustainable. These farmers will work to build a new food economy and a new farming economy by starting and running family-scale farms that produce vegetables, fruits, meats, and grains within sustainable systems.

The social, informational, and network support Greenhorns provides through their events, blog, books, radio show, and documentary film, are designed to help farmers coping with the business and personal challenges of starting out. Their toolsite Farmhack.net is a place for technology sharing and open-source designs for labor-saving devices. Their map at ServeYourCountryFood.net is a place to find other farmers in the network. And a new series of films at Ourland.tv address some of the critical dysfunctions of our current food systems and point to people who are solving them: one farm and enterprise at a time.

Find out more and join the Greenhorns!

dedication

For the guerrillas who first said yes to the brazen idea of making an atlas in half a year—those who love food and geography, and their intersection on the map.

For all the people who gave freely of their creative energy and precious time to build this volume. We did it to work and learn together, for fun and community. We did it for food and just to see it be done.

And for all the rest of the guerrilla collaborators around the globe who have let mapmaking become an act of collaboration, throwing their knowledge and their art into the cache, understanding that reciprocal learning happens by collective reason.

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FOOD: *an atlas*

is a crowd-sourced and crowd-funded collaborative project of guerrilla cartography and publishing. The atlas endeavors to map food in its myriad contexts and conditions at many scales of research and geography.

Scores of cartographers and food researchers fuse traditional cartography, poster art, infographics, and journalistic text-blocking to render the map as a narrative device. In all more than 120 collaborators came together in the spirit of knowledge-caching to create *FOOD: an atlas*.

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