

Kyle McCroy
grows organic
lettuce and
basil on an
urban farm

LOCAL FOOD GROWS UP

High energy prices and changing tastes are pushing farms to sell their produce closer to home. Can the movement to eat locally reshape the food-supply chain?

BY ROYA WOLVERSON

Photographs by Nathan Perkel for TIME

VIRAJ PURI CLIMBS THREE floors of a gritty industrial building in Brooklyn to the daily grind of his early-stage start-up—negotiating deals with big customers, keeping up with new technology, meeting with investors and making plans to expand. But Puri's 20 employees aren't trying to build the next big social-media or clean-energy company. Instead, on a rooftop in the Greenpoint neighborhood, they run a small urban farm, Gotham Greens, a sleek and sunny oasis of leafy lettuces and herbs.

At the company's 15,000-sq.-ft. hydroponic greenhouse Gotham Greens grows plants in mineral-infused water instead of dirt, using software that closely controls temperature, irrigation and nutrients. The result, Puri says, is better-tasting, faster-growing crops that can be harvested year-round to satisfy New Yorkers' voracious appetite for locally grown produce. "We

offer the city's retailers and restaurants volume and consistency, which is difficult to get with local, highly perishable vegetables," says Puri. "We can't keep up with the demand for our produce, which is a good problem to have."

Puri isn't the only entrepreneur trying to turn local agriculture, a dirt-and-worms labor of love, into a streamlined business. Energy costs are rising, and more Americans are paying attention to the provenance of their food. As a result, sales of local foods in the U.S., whether through restaurants, grocery stores, farmers' markets or farm-share deliveries, were projected to reach \$7 billion in 2011, up from \$4.8 billion in 2008, according to the U.S. Department of Agriculture. The definition of local food is fuzzy. The USDA defines *local* as products sold within 400 miles of their origin or in the state in which they are produced, but foodies, farmers and grocery stores all have different ideas about what qualifies.

Even by a broad definition, local food adds up to only 1% of the food we eat, but the steady shift in consumer tastes, along with efforts by big retailers to promote all things humane and healthy, is building a new local-food ecosystem. Farmers' markets, once common only in the quaint Northeast and crunchy West Coast, have spread throughout the country. The average American today lives within 13 miles of a farmers' market. Chipotle, the popular gourmet burrito chain, has doubled its locally sourced produce since 2010, to 10 million pounds a year. About one-quarter of the produce sold at Whole Foods comes from local farmers, up 55% from seven years ago, when the company made a push to boost its local sourcing. "There

Urban jungle Demand for local produce is driving the growth of farms close to New York City



NATHAN PERRELL FOR TIME

is a renaissance happening in being connected to your food and its producer, the likes of which we haven't seen since before World War II," says Walter Robb, a co-CEO of Whole Foods. "It's changing the face of agriculture. The distribution system has to evolve to accept the local producer."

The Next Frontier

IF THE LOCAL-FOOD MOVEMENT IS GOING to be more than a high-priced hobby, more local farmers will need to get their product to big supermarkets, wholesalers and restaurant chains, which sell the bulk of America's food. Farmers typically earn higher margins on food they sell directly to consumers through farmers' markets and farm shares, but selling in high volume to supermarkets and wholesalers has other advantages. "Farmers' markets involve a lot of work and risk," says Jim Slama, president of FamilyFarmed.org, a nonprofit that helps grow local farms' business. "If I go to four farmers' markets in a week to sell my stuff and it's rainy, I might sell half of what I would in sunny weather, whereas the supermarket has a lot more guaranteed customers."

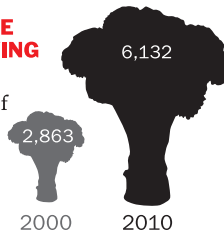
Still, scaling up is a difficult leap. National distributors like Sysco and retailers like Walmart need to buy more produce year-round than most small farms can offer. A typical small farmer selling to Chipotle, for instance, works 500 to 2,500 acres. That's more than a thousand times the acreage of Gotham Greens, which supplies Whole Foods and Fresh Direct. Using hydroponics, the company can maximize its productivity—it would take 10 to 20 times as long for a small farmer to crank out the equivalent amount of lettuce in that space using conventional methods—but the 120 tons of vegetables it produces a year is still minuscule compared with the yield of large commodity vegetable farms.

A more difficult challenge is squaring consumers' desire for fresh, local produce with seasonal changes and farmers' need for year-round income. Farmers in warm, sunny places can grow a wide variety of fresh produce all year, but in most parts of the country the growing season is fleeting: strawberry season in the Midwest lasts six weeks, compared with 11 months in California. At the DeGroot farm, a 3,400-acre operation 60 miles south of Chicago, a tight-knit family has been selling corn and beans to commodity markets for generations. Thirty years ago it relied on a wide variety of vegetables sold to consumers who picked them by

EATING LOCAL BY THE NUMBERS

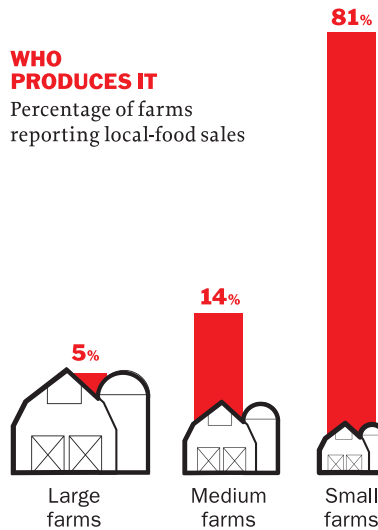
LOCAL PRODUCE IS GROWING FAST

Number of farmers' markets



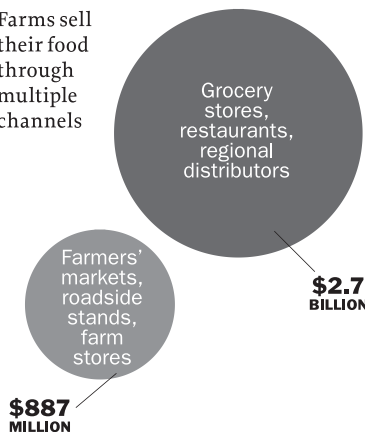
WHO PRODUCES IT

Percentage of farms reporting local-food sales



WHO DISTRIBUTES IT

Farms sell their food through multiple channels



80%

PROCEEDS KEPT BY FARMERS SELLING PRODUCE AT CSAS OR FARMERS' MARKETS. THEY KEEP ONLY 25% WHEN SELLING THROUGH DISTRIBUTORS

Sources: USDA Census of Agriculture; Miguel Gomez

hand in the fields or bought them by the basket at the farm's stand for seasonal canning and pickling.

The DeGroots now sell mainly to big wholesalers, but about five years ago, as they watched interest in local food surge, they started selling to retailers in Chicago. Adam DeGroot, 24, who handles sales for his father's and uncle's farm, says it often gets a higher return by selling locally and his consumers tend to get lower prices when transport costs are higher. "Why ship potatoes from Idaho to Chicago, which might add up to \$2,000 to \$3,000 in freight-transport costs, when you can ship them from our farm for \$200 to \$300?" he asks. Local demand for the farm's fresh vegetables has been strong—nearly all its cabbage sells locally—but the growing season lasts only a few months. To keep income steady, DeGroot explains, the farm sticks mostly with potatoes, corn and beans, which have a longer growing season and can be stored and sold year-round. "Demand for local has grown, but when supply is tight, some crops are worth more when sold outside the region. So we don't restrict ourselves to local customers."

Local meat and poultry is another tricky endeavor. Niman Ranch Pork Co., an Iowa-based network of small pig farmers, supplies Whole Foods and Chipotle across the country. Since it partnered with big retailers nearly a decade ago, its farm network has grown tenfold, from 50 to 500. But the bulk of its farmers are still in the Midwest, partly because of the space required to meet standards for humane treatment of animals. "You can grow a local tomato anywhere, but when it comes to pigs, you need space and scale," says the company's founder, Paul Willis.

From these Midwestern pastures, the animals move to a shrinking pool of regional meatpacking plants. Unlike fresh vegetables, which weigh less and require minimal packaging, meat needs extensive processing and requires heavy equipment to keep it cool in transit. As the industry has consolidated over the past three decades, the number of meatpacking plants in the U.S. has fallen by half. That means most small cattle, pork and chicken farmers have to send their goods a long distance just to get them ready for sale, then ship them farther to stores. At the end of their journey, all of Niman's pork products are labeled NATURALLY RAISED, which

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the company defines as antibiotic- and hormone-free, raised outdoors on pasture or in deeply bedded pens, and fed a vegetarian diet. But only 8% to 10% of Niman's pork sold at Whole Foods can be marketed as local.

Meeting safety standards is another expensive, time-consuming hurdle. There is no single national food-safety standard for produce, although the Food and Drug Administration is developing one under last year's Food Safety Modernization Act. For more closely regulated foods like eggs, small farmers who want to sell to retail stores often turn to private companies used by big retailers and distributors to test their products' safety. That option is out of reach for Phoenix's Egg Farm, a five-acre operation in Portland, Ore., that is trying to scale up. The owner, Souriya Khamvongsa, launched the business 2½ years ago and has doubled its stock of chickens from 1,000 to 2,000 to meet the

demand for his free-range eggs from 25 local grocers. "I've had nights where I'm hand-washing eggs until well past midnight," he says.

If his stock tripled to 3,000, federal law would require him to test for salmonella, which costs about \$10,000 for a batch of 1,000 eggs. "Until we start turning a profit and ramp up production dramatically, I just don't have that kind of money," says Khamvongsa, who has already invested \$100,000 in the farm with the help of a loan from the USDA.

Greasing the Wheels

BIG CUSTOMERS ARE STEPPING IN TO help small producers cut costs and finance their expansions. Whole Foods is looking to launch its own, less costly salmonella-testing program for its small farmers. As part of its local-producer loan program, started in 2007, the company lent Phoenix's Egg Farm money to

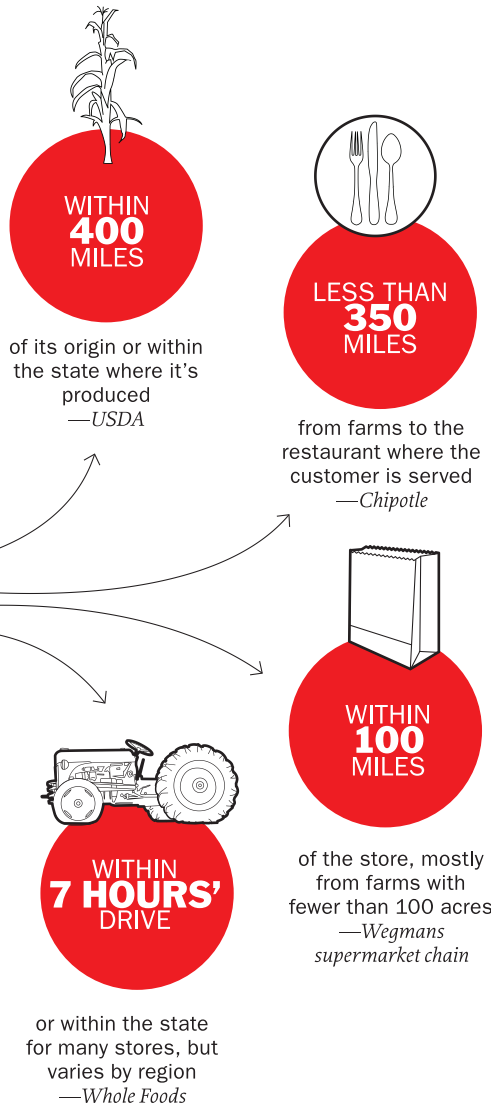
Rootless cosmopolitan

Growing plants in mineral-rich water, not soil, maximizes Gotham Greens' space on a Brooklyn rooftop

purchase a \$13,000 egg washer, which means Khamvongsa now spends less time washing eggs—he has since hired two employees—and more time managing finances and logistics. Whole Foods has also decentralized its operations in recent years to give regional and store-level buyers the authority to bring local goods to shelves. Small farmers no longer have to pitch their product at headquarters to get their eggs or carrots into a single store, reducing their sales and marketing costs. "It takes a pretty expensive range of support services to accommodate this supply coming online," says Robb of Whole Foods. "But the investment pays off because

HOW LOCAL IS LOCAL?

DIFFERENT
WAYS OF
DEFINING
"EATING
LOCAL"



52%

PERCENTAGE OF PEOPLE WHO SAY EATING LOCAL IS MORE IMPORTANT TO THEM THAN EATING ORGANIC

STATES WITH THE MOST FARMERS' MARKETS PER PERSON

RANK	STATE	TOTAL MARKETS
1	Vermont	84
2	North Dakota	56
3	Iowa	232
4	New Hampshire	90
5	Hawaii	83
6	Maine	77
7	Wyoming	30
8	Montana	48
9	Washington, D.C.	28
10	Idaho	65

Sources: USDA; Union of Concerned Scientists; Mintel

that's what more of our customers want."

Other supermarkets are experimenting with growing their own local produce. Wegmans, a Northeastern grocery chain that has sourced locally for decades, built a 10-acre organic farm five years ago as a lab where its farmers could learn to grow local organic produce, which is scarce in the region. Schnucks, which runs 99 grocery stores in the Midwest, is building a \$2 million hydroponic greenhouse with operator BrightFarms that will supply lettuces, baby greens, tomatoes and herbs year-round.

Local and federal governments are also chipping in. Cities like New York, Detroit and Burlington, Vt., have launched initiatives to help train and support local farmers and make use of vacant land. The USDA is doling out tens of millions of dollars for similar projects nationwide as well as grants for farm-to-school projects and food-stamp redemption at farmers'

markets. "We are experiencing a major transition in American agriculture," says Deputy Agriculture Secretary Kathleen Merrigan. "One-third of the farming population is over the age of 65. We have to stem the outflow from rural communities and make those places livable. That means repopulating our working land with young, beginning farmers, many who are interested in local and organic." Last year, FoodCorps, a new outcropping of AmeriCorps, received more than 1,200 applications for 50 spots.

Still, the local-food renaissance has limits. Local food's share of the overall food supply could grow 1% to 5% in the next five to 10 years with smart investments, but even then it would remain a niche market, says Miguel Gomez, an agricultural economist at Cornell University. "Consumers are very interested in local, but they are not willing to sacrifice convenience and variety, especially since

many markets are constrained by a short seasonal supply," he says. Tight credit and jittery investors don't help. "It's a struggle to get investors to look at this niche," says Slama of FamilyFarmed.org. "Fifty years ago, bankers were comfortable with investing in a poultry or vegetable farm. Today they only understand the numbers for commodity dealers in corn and beans."

Puri of Gotham Greens isn't concerned. His company turned a profit less than a year after opening, and he is planning to open two new rooftop greenhouses next year with the help of private investors. "If we build our facilities and grow high-quality products, we think the consumer will follow," he says. It may take generations of innovative and optimistic farmers like Puri to make local food a larger part of the American diet. But if the history of their 10,000-year-old occupation is any guide, the successful farmers will be those who take the long view. ■