



COMMUNITIES

WORKING TOGETHER
FOR A
HEALTHIER ENVIRONMENT

Edible Landscapes

The Philadelphia Orchard Project
Combines Urban Forestry and Urban Agriculture
Story and photos by Miranda C. Spencer

In the 17th century, Philadelphia's founder William Penn envisioned it as a "green country town," even naming its streets after walnut, chestnut, and cherry trees. Today, it is home to America's largest urban park system, and mature trees from ginkgo to spruce sprout from its sidewalks and yards.

Yet, deindustrialization and population loss have left swaths of America's fifth-largest city barren, with some 40,000 vacant lots, and many more empty bellies. The 2009 Census figures show one in four residents live below the poverty line, many in so-called food deserts, lacking access to fresh produce.

Penn's sylvan vision is a step closer to reality, thanks to the all-volunteer Philadelphia Orchard Project (POP). Since 2007, the project has employed a hybrid of urban forestry and urban agriculture to implement its mission: "To plant orchards in the city

of Philadelphia that provide healthy food, green spaces, and community food security." So far there are 22 of them all over town, with more to come. These orchards allow residents to harvest healthful, free or low-cost produce in their own neighborhoods. In this way, says Orchard Director Phil Forsyth, "We bring the local and organic food movements to everybody, not just people who already have wealth." For its work, POP received a first-prize 2010 Clorox Green Works Green Heroes grant.

Why orchards? Unlike garden vegetables, food trees are relatively easy to care for, hardy, and perennial. They don't require special soil or absorb toxic chemicals from the soil, according to Forsyth, the lanky, soft-spoken young landscape designer who is POP's only employee. These characteristics make orchards ideal staples for a sustainable urban food system.

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When these fruit trees (right) bloom, the community can begin to look forward to a new fruit crop.



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into the school's math, English, and science curricula, says Stein.

Berry bushes, like those seen above, act as the orchard's shrub layer, which all healthy natural forests need.

Those interviewed for this article agree that the key to POP's program—and their success so far—has been partnering with community-based organizations with legal access to arable land and water, demonstrated capacity, and established roots in lower-income neighborhoods. POP volunteers—who number around 1,000—help the groups plan, prepare for, and plant custom-designed orchards with a focus on organic fruit and nut trees, and berry bushes. Equally important, they also advise the local caretakers—both adults and youth—on how to maintain the orchards in the long term.

The responsible groups distribute the produce as they see fit. Some offer open harvest, or share the crop with volunteers and nearby families; others donate it to local food pantries; and still others, for whom the orchard is part of a community garden, sell it at farmers markets and use the profits to contin-

ue their work. The emergency and discount food distributor Self-Help and Resource Exchange (SHARE) is even using its orchard to teach clients how to grow their own food. This way, participants are fully invested in the literal fruits of their labors.

ON THE GROUND

POP's most recent orchard got its start on a cloudless, unseasonably warm Saturday morning in November at the George W. Pepper Middle School. Housed in a stern, slab-like building in the nondescript Southwest Philly neighborhood of Eastwick, the school stands across from a median inhabited by whimsical metal cows. Volunteers and the school administration are collaborating with the nonprofit Urban Nutrition Initiative (UNI) to propagate several apple, Asian pear, cherry, persimmon, juneberry, and fig trees in a 40- by 80-foot patch of land next to the parking lot by the auditorium. Along with vegetables in raised beds the volunteers built, these fruits are destined to become meals for volunteers and food donations to a local church.

On hand that day were Forsyth and volunteers, including Stephon Solomon, an earnest 8th grader; Jarrett Stein, part-time "healthy food ambassador" from UNI; "all star volunteer" Brian Olszak, a former librarian with the service-learning group Earth Force; Shayna Lewis, an aspiring farmer all the way from Brooklyn, and half a dozen others.

Over the course of four hours, they "sheet mulched" the ground by laying and hosing down disassembled cardboard boxes, and raking a steaming mound of blackish, redolent mushroom

compost and a pile of dirt two inches thick across the grass. Then they dug holes in which to plant the saplings, immediately surrounding them with protective wire fencing—an orchard "must." There was much pushing of wheelbarrows and splattering of mud; at the end of the day, noses were sunburned but the area was transformed.

In the spring, POP and the school's volunteers will add a pomegranate tree (slated for a sunny spot behind a staircase), then fill in the main orchard with berry bushes, including currant, blueberries, raspberries, honeyberries, and gomme berries, plus perennials and groundcover plants—and eventually, a grape and kiwi arbor. Unlike the trees, which can take five to ten years to fully mature, these quick-growing crops will be available within one season, allowing the orchard owners to start eating. Meanwhile, as it blooms, this particular orchard will be incorporated into the school's math, English and science curricula, says Stein. As Solomon observed while stabbing a shovel into the soil, "Everybody benefits."

NOT JUST TREES, ECOSYSTEMS

Orchards like Pepper Middle School's don't fit the classic image of acres of monoculture. They are examples of "edible forest gardening." As a POP fact sheet explains, "The basic idea is to create a functioning, diverse ecology in the orchard that mimics that of a natural forest." Fruit trees are just one component of an Edible Forest Garden. Like a natural forest, it has seven "layers": the canopy (large fruit and nut trees); low trees (dwarf trees); shrubs (berries); the herbaceous layer (herbs, etc.); the rhizosphere (root vegetables); the soil surface (ground cover); and the vertical layer (vines).

When Forsyth and POP's partners design an orchard, they select a diversity of plants within each level to increase the chances that at least part of the orchard will be productive, and ensure all "ecological niches" are filled. This helps prevent weeds, improves the soil, and "creates positive relationships between plants."

Edible forest gardens are an example of permaculture, a sustainable design system that developed in Australia in the 1970s. So if POP orchards take time to bear fruit, that's the point—they are meant to be long-term investments integrated into the city's infrastructure. "POP has made the idea of orchards in the city increasingly normal," asserts veteran community organizer Paul Glover. "Everything normal today was once a wild idea."

POP'S JOHNNY APPLESEED

You might call Glover POP's Founding Father. Back in 2006, when he'd first moved to Philadelphia from Ithaca, New York, the city government was stockpiling vacant land and razing abandoned structures. Its "Clean and Green" program to



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stabilize blighted lots was setting the stage for real estate redevelopment. On the other hand, state and federal money for urban agriculture had been slashed; community gardens were viewed as “a middle class hobby,” recalls Domenic Vitiello, assistant professor of city and regional planning at the University of Pennsylvania, and POP’s first board president.

Glover originally conceived POP as an alternative to gentrification. He pictured a “pop agriculture” movement whose members would claim, buy, or lease degenerate city-owned and private land for orchards that would lead to self-sufficiency. The energetic, 60-something Renaissance man, who sports a well-trimmed mustache and well-worn sandals, already knew how to sell an idea. He had established Ithaca HOURS—a local currency used by Ithaca residents to purchase goods and services—a system intended to promote the local economy. By hosting a series of potluck suppers around Philly where neighbors could discuss the possibilities, he was able to generate a large listserv, and over time assemble a diverse network of amateurs and professionals whose interests and organizational missions overlapped POP’s. One of the earliest recruits was Vitiello, who is on the Delaware Regional Planning Commission (DVRPC)’s Food Systems Stakeholder Committee. POP (now a 501(c)(3) nonprofit) later became a member.

Through some trial, error, and still ongoing experimentation, POP eventually settled on its current flexible, de-centralized model of orchard planting, which nevertheless requires interested community groups to complete an application and screening process, and attend a silvics training workshop given by the Pennsylvania Horticultural Society’s Tree Tenders program. Still, POP is “designed not to depend on government” and owns nothing except the plants it donates, says Vitiello, allowing the organization to remain nimble.

BUSHEL OF BENEFITS

Is increasing food security and reforesting the city one orchard at a time an effective, replicable model? Why not? says Alison Hastings, senior environmental planner at the DVRPC, who works on food-systems issues: “Urban planning thinks comprehensively, but it’s always implemented on the local level...site by site.”

While organic fruit and nut trees and berry copices can’t solve hunger, they are an important dietary supplement. “There is a need,” says POP board president Michael Nairn, who teaches urban agriculture at the University of Pennsylvania. “People come to us.” Though the yields have yet to be measured, they can be extrapolated from research by Nairn, Vitiello, and a team at Penn, who found that Philly’s community gardens produce some 2 million pounds of edible produce, all distributed informally. Nairn also notes that raising orchards empowers food-insecure participants with heirloom knowledge about food origins and the skills to grow their own, helping communities to build food independence.

“A simple idea can have a big impact,” says Hastings. “POP is part of the ‘edible horticulture’ movement. The new thinking is, ‘we plant ornamental trees and shrubs already, so why not fruit-bearing ones?’” Alice Ewen, executive director of Alliance for Community Trees, agrees. “We think [urban orchards] are fantastic! They bridge the urban/rural divide: Fruit and nut trees are a non-timber product, so you can have them in an urban setting—you don’t necessarily have to grow them on a farm.”



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Volunteers at George W. Pepper Middle School prepare soil beds (above left) and plant trees (above) in their school’s new orchard.

Benefits of urban trees include cooling heat islands, improving air quality, reducing stormwater runoff, and improving social conditions.



In many cities, the benefits provided by urban trees are worth millions of dollars.

As far as reforestation, “if the only trees added are fruit and nuts, it’s not enough, because you need canopy trees to provide the full benefits,” explains Michael Leff, program manager of TreeVitalize, a public-private partnership to help restore tree cover in Pennsylvania. But as the orchards mature, they’ll add to Philly’s overall tree cover, so they are “another piece of the puzzle. We need as many trees as we can get.”

According to the U.S. Forest Service, benefits of urban trees include cooling heat islands, improving air quality, reducing stormwater runoff, and improving social connections. Indeed, the very first POP orchard, initiated by United Communities Southeast Philadelphia (a nine-member agency serving low-income youth), has been spruced up with picnic tables and is used as a neighborhood meeting spot. “It’s a huge deal, because there are so few parks and playgrounds,” says Cory Miller, who works with UC member Southeast Philadelphia Collaborative.

Moreover, recent studies are supplying the metrics to put the role of urban orchards into perspective. For example, a November 2010 report on “The Economic Value of Protected Open Space,” by the Economy League of Greater Philadelphia and outside consultants looked at 200,000 acres of protected lands in five Southeastern Pennsylvania counties. It found that such green space generates the equivalent of billions of dollars in benefits, including \$133 million annually in “avoided costs” for environmental services, such as carbon sequestration, and an average \$10,000 per household in added property value.

SEEING THE FOREST FOR THE TREES

As for POP’s role in Philadelphia, it fits well with city and regional greening trends, both grassroots and official. POP’s goals overlap with Mayor Michael Nutter’s six-year Greenworks Philadelphia plan, which aims to make Philly “America’s Greenest City” by 2015. The ambitious, 15-target agenda includes increasing tree cover to 30 percent by 2025, increasing access to local food to within 10 minutes of 75 percent of residents, and adding 500 acres of new public land. The city’s Parks and Recreation Commission is primarily responsible for those three goals, according to Director of Urban Forestry and Ecosystems Management Joan Blaustein. “Orchards are another way to plant trees where they were not traditionally thought about,” she says.

As part of a demonstration project, the department arranged park access for the Woodford Orchard, a dell in the dilapidated Strawberry Mansion neighborhood. Installed in 2008, it is a collaboration between POP, the Fairmount Park Commission, the private Naomi Wood Trust, and the nonprofit East Parkside Revitalization Alliance (EPRA). Tended by kids in EPRA’s youth programs, the orchard features recently planted hardy nut trees including pecan and chestnut. Last spring, the local community harvested some 100 pounds of strawberries.

How these trends play out depends on resolving the ongoing debate within city departments about the best strategic use of city lands. “We need to answer the question ‘what should urban agriculture look like?’ and establish a policy that doesn’t change with the mayoral administration,” says Prof. Vitiello. Logically, that policy should include official protection for orchards and community gardens.

Beyond Philly’s boundaries, people in other cities, including Pittsburgh and St. Louis, have been contacting POP and following its lead by planting orchards. And municipalities including Chicago, with its Rarities Orchard Project to plant public heirloom fruit trees, and Seattle, with its 2010 Year of Urban Agriculture, have been independently initiating their own, more comprehensive citywide programs.

Paul Glover—who has stepped down from POP to coordinate new grassroots green-jobs and health-care initiatives—has no doubt that it is all for the best. “Trees are our best citizens,” he maintains. “They are the food for soil, and soil is food for food.”

Miranda C. Spencer is an independent journalist and editor based in Philadelphia.

RESOURCES

PHILADELPHIA ORCHARD PROJECT

www.phillyorchards.org

The site includes a complete list of orchards, information on what and how POP plants, and a downloadable model application form and checklist for people who want to start their own similar programs.

ALLIANCE FOR COMMUNITY TREES

<http://actrees.org/site/index.php>

“The only national organization solely focused on the needs of those engaged in urban forestry.”

NEIGHBORHOOD FRUIT

www.neighborhoodfruit.com

Helps people find and share fruit on public and private trees in urban areas around the U.S.