



ROUNDTABLE

Fruit Trees in the Urban Forest



In Surrey, even an old orchard that still produces fruit can be incorporated into a beautiful garden park, providing a juxtaposition of old and common with the new and exotic. Photo courtesy City of Surrey

This issue, SMA members opine on fruit trees in urban settings—a hot topic as interest in local food production grows.

Last June I was invited to attend a park commissioner’s fruit tree hike to have an initial conversation and brainstorm about planting fruit trees in public spaces in Madison. My initial thought was: how do I steer this conversation away from fruit trees being planted as street trees but still be a positive participant during the discussion and implementation of this project?

I then remembered that this past April, Walt Warriner posted a “Fruit Trees in Parkways” question on the SMA Listserve. I read through the thread of responses Walt received, which helped me formulate my approach.

When I responded that I would attend the fruit tree hike, I added the following:

“Through an online discussion with the Society of Municipal Arborists, I have read comments from city foresters in California, Idaho, Rhode Island, and other states. What I have gleaned is that planting fruit trees in the terrace/tree lawn is not a best management practice for fruit tree health/survival and the harvesting of fruit. However, my colleagues do recommend fruit trees in a park setting, where fruit trees have more soil volume and are not subject to car exhaust and road salt. Also, harvesting fruit in parks is much safer than having people step into a lane of traffic to pick the fruit on the street side of the tree.”

I added comments and questions about college students throwing fruit in a downtown area, fruit pests, the pruning of fruit trees, fruit varieties, and the care of fruit trees for maximized fruit production. The email response from the hike organizer was, “Wonderful, thank you for the excellent questions to launch our conversation, Marla!”

For the actual fruit hike, I brought along printouts from the Web by a pro-fruit-in-parkways organization called *Fallen Fruit*—one that George Gonzalez had mentioned in the SMA email conversation—and handed it out to the group of hikers. While munching on Bing cherries from a privately owned cherry tree (prior approval from the tree owner was obtained), the group read the handout, which demonstrated my willingness to be a part of the solution by researching the issue and sharing what I found. I was transparent.

When the discussion came up about potential sites, the group agreed that placing fruit trees within the parkway would not be the best situation. Some even mentioned the questions I raised such as public safety and fruit sanitation. The group had had time to think about the answers to my questions before the group discussion occurred.

Urban agriculture is growing at an astounding rate in cities throughout the U.S. In the City of Madison, we have 42 community gardens totaling 25 acres as compared to only 23 gardens (17 acres) in 2002. More than 1,700 Madison households now have a plot in community gardens.

So the question is what can urban agriculture do for my urban forestry program? The answer is simple. Commonly discussed public benefits of our urban forest include improved air and water quality, reduced heating/cooling costs, enhanced property values, reduced storm water runoff, and carbon sequestration. In a time of shrinking municipal budgets and strong interest in local and organic food sources, fruit trees appropriately sited in the urban forest adds another perceived value to the city forest.

By involving a broad base of stakeholders, municipal arborists are more likely to develop fruit tree policies that will enhance the value of the urban forestry program and at the same time meet the needs of the public. The more equitable the decision-making process, the more resident or group involvement and buy-in you will have. Also, in my own experience, written agreements outlining roles and responsibilities can increase the commitments and policy compliance of the various parties involved.

—Marla Eddy, City Forester, Madison, Wisconsin

I will be upfront. My recommendation would be against the use of parkstrip for fruit trees in the scheme of “edible streets.” The reason is right in the name: fruit. All trees,



Residents of Surrey, British Columbia, harvest apples from a municipal tree. Photos this page courtesy City of Surrey



A remnant of a former filbert plantation (*Corylus avellana*) has been retained during the development of a botanical garden in the City of Surrey. The filberts bear loads of nuts that are collected by the volunteers who help manage the garden.

save for sterile hybrids or cultivars, produce some kind of fruit, but most fruit trees produce a larger, messier fruit.

It is not necessarily the fruit that is problematic; it is the management and cleanup of the fruit. If you allowed me to plant cherries or prune plums in the parkstrip because I said I'd take care of them today, and I sold the property next year, what will happen to the trees? Who will maintain them? Will you come out and spend limited resources to remove the tree because the fruit falling on the sidewalk is tracking onto my new white carpet? And you want me, the new homeowner, to take all the extra time to maintain the tree? I bought the house, not the street tree; it is the City's tree.

Certainly, you could issue me a permit to remove and replace the tree at my expense. But why should I pay to remove and replace a tree that you authorized, even though you knew it would cause litter problems down the road?

It is wiser not to allow the fruit tree to be planted in the first place. You can point to all of the codes that lay out the maintenance responsibility, but it is best not to allow the fruit trees in the parkstrip.

I work in Idaho now, but there is one thing I will always remember about my time in Chico, California. The air was rich with the scent of citrus blossoms in the spring. Planted as cuttings—from the mother orange tree in Oroville, California in the late 1890s—the oranges were great, small trees planted in narrow parkstrips.

They were great in every way except the fruit. We picked the downtown core trees. However, the neighborhood trees dropped their fruit. It was a mess. Since the trees were typically not sprayed, the fruit usually had worms or other pests in them. Also, the oranges in Chico were marmalade oranges. Since no one wanted wormy fruit or sour oranges, the fruit often went to waste, even the oranges we picked. And then there was the problem of college students (adults?) throwing the fruit. If Chico had the money, the trees could have been sprayed with the growth regulator Florel to limit fruiting. You would get all of the benefits of the orange tree, but without the fruit.

I agree with the concept of using the ROW to produce fresh fruit. It is a good concept. However, the road to perdition is paved with good intentions. The devil is in the details, including questions such as:

Fruit pests. *Who will spray to control the worms and maggots? Will you even be permitted to spray? Will people eat fruit with worms or maggots in them? What quarantines do you have for pests transported in non-agriculturally-produced fruit? Will the fruit be certified by the Agriculture Commissioner*



Pruning classes in the orchard of Surrey's historic Stewart Farm, Elgin Heritage Park Photo courtesy City of Surrey

for transport out of the growing area? What happens to the fruit if it is quarantined? Who will pay to dispose of the quarantined fruit?

Thinning. *Will you use commercial thinners to reduce fruiting? If not, who will thin the fruit so that fruit is of an acceptable size? The consistent size people want comes from chemical thinners used in the orchard just after fruit set. Will the recipients of the fruit be willing to thin the trees by hand to achieve adequate sizing, or will they accept small fruit?*

Fruit varieties. *Who will select the species and varieties? Are there varieties available that will set fruit with limited chilling in warmer areas?*

Pruning and cycling. *Who will prune the trees? Will they be pruned for maximum fruit production? Fruit trees typically have a useful cycle of about 20 to 25 years. Who will remove and replace the trees to maintain maximum production? Will you be allowed to remove and replace the trees?*

Height of trees. *Will you use fruit trees with dwarfing root stock? If not, how tall will you allow the*



Ohioans enjoy picking ginkgo fruits (above) and cherries (bottom right). Photos by Steve Cothrel

trees to become? How will you deal with the liability of volunteers climbing 14 foot orchard ladders to reach upper fruit? How will dwarf fruit trees affect visibility along the streets?

Neighborhood aesthetics. *What impact with this have on the aesthetics of the neighborhood? How will you deal with those who don't want a neighborhood orchard?*

Safety. *Who will police the trees? What happens when someone comes along and harvests the trees without permission? Will they be fined? They were only trying to feed their family. Who controls the trees? Will you have turf wars?*

Water. *And the most important question, who will pay for the irrigation water? Mark Twain is reputed to have said, "Whiskey is for drinking; water is for fighting over." In the drier regions, will you require residents to pay for the added fruit tree irrigation? What if water for personal and sanitary use is already limited?*



These are just a few of the questions I would ask during conceptual program development. I could go on. Then again, we often have to deal with the politics of the issue, and we may be directed to make this type of program happen. Implementation of the directive will be the challenging point. There are some weighty issues that need to be discussed.

Now where is that can of wormy apples ...?

—Chris Boza, City Forester, City of Hayden, Idaho

Fruit and nut bearing trees can indeed be a source of frustration when they are planted in inappropriate places. However, the food value offered by such species deserves some respect! Our own species might not be here today were it not for the figs, dates, and other nutritious fruits that kept our early kin from starvation.

We all have residents who hate messy debris from trees. While I won't advocate for fruits that can cause concussions or broken windshields, tree fruits are usually ornamental and valuable to wildlife. The often despised sweetgum (*Liquidambar*) fruits are an example of an attractive fruit that is annoyingly persistent once it falls. But really, if you're willing to mow a lawn 30 times per year, is it so much of a burden to rake "monkey balls" two or three times per year?

With the increasing popularity of locally grown foods and edible landscapes, there is almost certainly potential for great public relations and community building here. Should people eat fruits grown in sewage sludge or infused with heavy metals from exhaust? I'd say no. But if cities can find suitable soil for community gardens, then apples, cherries, pecans, and persimmons should be just as safe to eat when grown in appropriate places. And the walnuts, hickories, and the like that volunteer in our parks may someday be the only century-plus giants we have, since they are the only trees being planted as nature intended, without root balls, grafts, and buried root collars.

In Upper Arlington, we have a number of cherry trees in our parks and along streets, and I see entire families picking the fruit each summer. Despite my none-too-subtle hints, I've never had a pie dropped off at my office, but it's heartwarming to see kids outside, picking fruit and bonding as people did before video games were invented. It's a great cure for "nature deficit disorder." The osage oranges in another local park keep kids occupied for weeks in autumn, serving as ammunition, art supplies, and spider repellants.

Many times I've witnessed entire families of residents picking up the fruit of the female *Ginkgo* from the ground.

I do not drop hints about obtaining pies in such cases. I am, however, curious about how this foul-smelling fruit becomes an edible delicacy.

Working in a community adjacent to The Ohio State University, we're besieged each fall by callers looking to collect buckeyes to make their necklaces and trinkets. So in a world where biodiversity is key, let's not be too quick to condemn trees that can serve our residents in so many ways (but let's use some common sense in the process). Every mighty oak is just a nut that held its ground.

—Steve Cothrel, Superintendent of Parks, Upper Arlington, Ohio

Here in Davis, the idea of a food forest was brought up recently at our tree commission meeting. The topic of fruit trees being planted in residential and parkway strips was discussed as a way for the community to have food grown and available in the City easements. I suggested and prefer the idea of a community based garden area for food crops to be grown.

As a municipal forester, I like to promote involvement from the community in shaping, creating, and maintaining the urban forest, but with food crops being grown in parkways and residential easements, I have some concerns. First is the cost of properly maintaining food crop trees. Fruit and other food producing trees require a different level of care than do non-crop-bearing trees. Special pruning, possible dormant oil and other chemical applications (depending on tree species), fruit harvesting, and cleanup of old fruit are a few factors that come to mind.

The level of care would increase here in Davis as the crops would have to be organically grown due to the community value of using limited chemical or even non-chemical means of pest control. Also, if pesticide applications are needed, who would be liable for the applications and possible contamination if protocols are not followed by the public after treatments? With the limited budgets we are all facing, I cannot see our program taking on this level of tree care or responsibility. Even with some level of volunteer help, it would be too labor intensive to have fruit trees in these areas.

Another concern is if the trees are planted in residential easements, as was suggested in our commission meeting, then the City is inviting the public onto private property. I could not see selecting fruit trees that would encourage other residents to come pick fruit on the homeowner's property. There is liability enough having the public harvesting fruit along the roadways. We also have a fairly large rat population and giving them and other critters free food that is not harvested is also another factor to

consider. The cost to clean up the fruit and the liability of sidewalk and path areas with old fruit on them is another prohibitive factor for me.

In the end, our commissioners did not think public fruit trees on residential property or in streetscapes is a good idea. We decided to scope out an area of open space that currently has some fruit trees. If the community wants to develop this area as a public orchard, I am all for them finding the place, responsible party for maintenance, and money to fund the tree planting and care, with the City providing the appropriate land areas. This partnering with the community, for me, is a better and more workable alternative to placing these types of trees in parkways.

—Rob Cain, Urban Forest Manager, City of Davis, California

The City of West Sacramento doesn't have a formal policy regarding the planting of fruit-bearing trees in public rights of way. Fruit trees are not on our master tree list; however, we have had requests from the public to plant fruit trees in public areas. There are pockets of open space in neighborhoods and other areas away from pedestrian traffic that would be conducive to fruit trees. Local community gardens would also benefit from free fruit trees offered by the City. Considering the current economy, it might be a welcome addition to the community to have random fruit trees throughout town for our citizens to consume.

The reason we have not planted fruit trees in our ROW or parkway strips in the past is primarily because of the increased potential trip hazard resulting from fruit on pedestrian pathways. The few areas where we do have fruit on trees were completely unintentional when we planted some purple leaf plum trees (*Prunus cerasifera* 'Krauter Vesuvius') that were *supposed* to be fruitless. For the most part, though, passersby eat the fruit before it causes a mess!

Many growers in California have offered free bare-root trees to non-profit groups such as the Sacramento Tree Foundation. These are then dispersed to residents who attend the giveaway on a Saturday in February or March. I am looking into the idea of providing free bare-root fruit trees to our community.

—Dena Kirtley, Urban Forest Manager, City of West Sacramento, California

Tropical Fruit Trees in the Urban Forest. These past few weeks we have been pollinating our sausage trees (*Kigelia africana*) at Jungle Island here in Miami, Florida. This striking tree is found in many of the older areas of Miami, but usually it is not noticed because there are no fruit hanging from the branches. In its native habitat in sub-Saharan Africa, pollination of the night blooming flowers is done by bats. We don't have these bats in south Florida, but occasionally woodpeckers or the introduced spot-breasted oriole will provide the service when they find opening flowers in early evening.



At Jungle Island in Miami, Florida, Director of Horticulture Jeff Shimonski has to be thoughtful about where he plants coconut palms (*Cocos nucifera*, left), calabash (*Crescentia cujete*, right), and sausage tree (*Kigelia africana*, next page). Some coconut palms produce over 100 fruit a year; this coconut already had all the fruit cut off once this year. The fruit of the calabash is not edible but can grow as large as a basketball. Photos by Jeff Shimonski

Sausage trees are self-incompatible; they need pollen from another tree in close proximity in order for pollination and fruit set to occur.

Over the years I have learned quite a bit about displaying fruit trees and the public. Many years ago we had several mature citrus trees as landscape focal points. They would produce hundreds of fruit every year, and every year all the fruit below eight feet (2 m) would be stolen. Occasionally some of our more aggressive visitors would even climb into the trees to pick the fruit. Some of the scaffold branches were snapped off and we even had people fall out of the trees. Citrus canker resolved the problem and the citrus trees were eventually cut down.

We grow other trees that produce fruit unique to the tropics. The large round inedible fruit of our calabash (*Crescentia cujete*) is very eye-catching and apparently quite collectable. The cainito (*Chrysophyllum cainito*) has very attractive foliage and a tasty marble-sized fruit that never lasts more than a day on the tree before it is picked off by native bird or man. The fruit of bananas (*Musa*) and papaya (*Carica papaya*) never have a chance.

I have found a multitude of issues regarding fruit trees in public areas and urban forests. The fruit will be taken, so a tree has to be grown in an area where people have no access. If the tree is climbed, there will be a good chance that it will be damaged and left with broken branches. There is also the chance that a person will fall out of the tree and become injured (with resulting lawsuits). I occasionally see akee (*Blighia*

sapida) growing in residential landscapes. The cooked fruit is delicious but unripe fruit is very attractive and very poisonous.

Safety is always on the mind of an urban arborist and fruit trees with heavy, dense falling fruit is a serious issue. The fruit from the sausage tree can weigh several pounds. Typically the fruits last a year on the tree before they drop off. If the tree is in an area where the falling fruit can damage something below, it is prudent to cut off the previous year's fruit. Coconuts (*Cocos nucifera*) present a real challenge. Many people are injured by falling coconuts. Speaking from personal experience, falling coconuts will dent a car roof or hood, break roof tiles, and become air-borne missiles in a hurricane. I am now very careful where I plant them.

—Jeff Shimonski, Director of Horticulture, Jungle Island, Miami, Florida

One of the guiding principles of urban forestry is to plant the right trees in the right place. The primary reason for planting street trees is to:

- *Shade the streets and adjacent buildings*
- *Capture stormwater*
- *Absorb gaseous and air-borne pollutants*

Therefore urban foresters strive to plant the largest canopy tree that will fit on a site. Street trees also must be tough, resilient, low maintenance, and drought tolerant and must have structures that minimize public safety concerns.



Potential concerns with using fruit trees as street trees:

- *Potential liability and mess due to fruit drop*
- *Fruit trees normally require more water than average street tree*
- *Pest control problems with fruit*
- *Fruit trees attracts rodents*
- *Disputes with harvesting of fruit*

A better use of fruit trees is on private property where the property owners can plant and maintain the trees and better control the harvest. Also fruit trees can be small and kept low in height for easier harvest; these trees should be planted in locations where the larger shade trees cannot fit. I think it would even be more appropriate to give away fruit seedlings in low income neighborhoods to plant on private property or in small planter boxes than to put the trees in the ROW. The Million Trees Los Angeles organization is working on a promotion for fruit trees on private property.

—George Gonzalez, Chief Forester, Los Angeles, California

Surrey, British Columbia's historic Stewart Farm (1894), located in Elgin Heritage Park, contains an orchard with 26 varieties of heritage apple, pear, and plum trees. The current orchard was planted in the 1980s, with most of the varieties coming from nearby farms or from an avid local grower and tester of fruit trees. Examples of some of the oldest apple varieties are Ashmead's Kernel, c.1720 from England; Gravenstein, c.1669 from Germany; and Fameuse, c.1797 from Quebec.

The City presents orchard pruning classes in February and harvests the fruit in September for an annual Apple Day event that involves other local growers, experts in blue orchard bees, Master Gardeners, the BC Fruit Testers and other related organizations. There are cider demonstrations, baking and other apple-related activities done to educate visitors about fruit tree growing and fruit tasting.

—Lana Panko, Curator, Historic Stewart Farm, Elgin Heritage Park, Surrey, BC

The urban forest consists of all trees in the community, on both public and private property. Typically, the trees planted on public property are the responsibility of the City to maintain. The challenges I see for fruit trees along streets are clearance, harvest, cleanup, and safety. The ideal fruit trees are smaller in stature so the fruit can be easily thinned and harvested. Fruit trees that reach large sizes cannot be thinned and harvested easily, and since the fruit will stay on the tree past ripeness, the dropped fruit may not be edible.

Street trees are generally planted to provide canopy and shade over the street and sidewalk areas. Most fruit trees are smaller and generally do not provide the desired canopy. At the same time, small trees can create clearance problems for pedestrians and vehicles unless they are upright varieties.

Fruit trees tend to invite pickers to collect the fruit. During street tree pruning operations, firewood left on the site is available on a first-come basis. Being a public asset, the same would be true for fruit from street trees. As a resident, I may water my street fruit tree with the hope of harvesting a crop, yet anyone in the city can come by and harvest it.

During harvest, if the fruit is not reachable from the ground, a ladder, pole collector, or climbing is necessary. In a street and sidewalk situation, that is not safe. Conflicts with vehicles and pedestrians occur. Anyone climbing without proper safety gear poses a liability for the City.

Un-harvested fruit falling over the sidewalk or street may contact a vehicle or pedestrian, or cause a potential slip-and-fall or bicycle obstacle. Fruit on the sidewalk is also an obstacle for roller bladders and skateboarders (please keep the applause down).

Fruit from olives, cherries, plums—the squishy drupes—cause stains to sidewalks and streets. In order to keep a clean area under a fruit tree, harvesting is necessary before the fruit falls. In my experience, this rarely happens in the planting strip areas.

Good fruit harvest requires maintenance. To obtain good size and quality, fruit thinning and pruning are necessary. This rarely happens on street trees. When proper maintenance does occur, the fruit is still available to anyone for harvest, creating a potential ownership conflict.

There is plenty of space for fruit trees in parks and community gardens and on private property. On most newer home sites, the space for large trees has been designed out with increased home footprints and decreased lot sizes. These smaller places are ideal for small fruit trees that will fit in the available space and provide a crop for the homeowner. Control over the type of fruit, harvest, and maintenance clearly falls to the tree owner who can decide if the care required is worth the benefits of the fruit.

Fruit trees should be encouraged in neighborhoods in the right places. Along streets is not the right place.

—Gordon Mann, Mann Made Resources, Consulting Arborists, Auburn, California 