



Grounds Services  
Arboretum



Arizona State University  
Grounds Services  
Arboretum

EDIBLE CAMPUS-LOCAL FOODS

*Guide to harvesting produce at ASU*

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## **Grounds Services Arboretum Volunteer Harvest Programs**

### **PLB 484 Edible Campus Internship**

Learn about Grounds Services Arboretum campus harvest, organic gardening and composting.

### **Polytechnic Date Palm Stewardship**

Adopt a date palm at the east campus and learn how to care for date palms throughout the year. Harvest your own share of dates in the fall.

### **Tempe Campus Date Harvest (November)**

Pack dates for ASU Foundation.

### **Seville Orange Harvest (Jan-Mar)**

Pick sour oranges for charities & campus kitchens. Support eating locally.

### **Organic Herb Garden**

Work with an Arboretum horticulturist to plant & maintain the campus herb & vegetable garden.

For more information about Grounds Services Arboretum harvest events and volunteer opportunities please contact the Volunteer Coordinator.

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Volunteer Coordinator  
Grounds Services Arboretum  
(480) 268-4165

For more information on ARAMARK Campus Dining

<http://www.campusdish.com/en-US/CSMW/ArizonaState/FreshHealthy>

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ASU Sun Devil Dining  
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## **Harvesting produce on Campus**

The Arboretum at ASU was dedicated in 1990 by Arizona State University President Lattie Coor and encompasses the entire 750 acre ASU Tempe campus. It is an urban garden landscape of trees and unusual plants from around the world, displayed with art and architecture, water features and pedestrian malls. Mixed in this eclectic landscape is an abundance of fruit and nut bearing trees.

Traditionally, students and faculty have casually picked fruits and nuts from the ASU campus for their own enjoyment. Sweet ready to eat fruit, such as oranges and tangerines are preferred and there has never been any waste of this type of citrus on campus. Usually, certain coveted trees are carefully watched and are stripped clean as soon as the fruit ripens.

However, the most abundant crop on the ASU campus is produced by the 265 Seville sour orange trees. If every tree produced just 100lbs it would make 12 tons of sour oranges available during the months of December through March. In the past these sour oranges have been picked and tossed away because no one wanted to use them in recipes anymore.

To keep this fruit out of the landfill, ASU Grounds Services Arboretum has had to accomplish two objectives; (1) recruit volunteers to help pick these oranges and (2) change people's opinion about using sour oranges in recipes. Long held misconceptions about ornamental oranges and its favorite use as a taste testing prank played on unsuspecting ASU freshman has made it difficult to convince anyone that sour orange recipes really are delicious.

Undaunted by the huge crop of sour oranges, Grounds Services Arboretum staff and volunteers picked over eight

thousand pounds and setup a distribution system for local animal organizations in January and February of 2008. Picking citrus for human consumption is a bit trickier, and after much collaboration between several state agencies, ARAMARK and Grounds Services Arboretum held the first ever food grade harvest of ASU Seville oranges in March of 2008. As a courtesy, these oranges were juiced by Jamba Juice at Memorial Union and 18 gallons of concentrated juice was produced for use in ARAMARK campus kitchens. This type of collaborative effort between ASU Grounds Services Arboretum, ARAMARK Campus Dining and the University Club's Atlasta is very important to the continued success of the Local Foods program.

Grounds Services Arboretum will setup a campus citrus harvest event for any ASU affiliated group. However, all of ASU food service staff is encouraged to pick herbs from the ASU Herb Garden as needed for any recipe calling for fresh ingredients. Please feel free to take a stroll down Forest Mall to the Arboretum Herb Garden and pick some garlic chives for a campus dish.

### *ASU Grounds Services Arboretum is Organic!*

- ❖ No pesticides are used at the ASU Grounds Services Arboretum.
- ❖ The entire campus landscape is now watered with potable water from the City of Tempe.
- ❖ An average of 12 tons of branches, clippings, and other green waste from campus per month is delivered to Ken Singh Farms, a local farm that composts organic waste. The resulting high quality compost is used at the Arboretum.

5. Store the marmalade in jars in the refrigerator for up to 4 weeks. *If you seal them via canning process, can store unopened up to one year.*

### **SOUR ORANGE PIE**

Time: About 1 hour, plus 2 hours' freezing

For the crust:

- 1 1/2 cups fine graham cracker crumbs
- 1/4 cup sugar
- 3/4 cup butter, melted and cooled
- Butter for greasing pie pan

For the filling:

- 1 14-ounce can sweetened condensed milk
- 2 tablespoons whipping cream
- 5 egg yolks
- 1/2 cup plus 1 tablespoon strained sour orange juice
- 1 tablespoon sour orange zest
- 1 1/2 tablespoons sweet orange zest
- 1 pint whipping cream
- Mint sprigs for garnish.

### **Directions**

1. Preheat oven to 350 degrees. In a bowl, combine cracker crumbs and sugar; add melted butter and mix thoroughly. Grease the bottom of an 8-inch pie pan and press mixture firmly into it, creating an even layer on bottom and sides. Bake 15 minutes.
2. As crust bakes, whisk condensed milk, cream and yolks together in a non-reactive bowl. Mix in sour orange juice and both zests, reserving 1/2 tablespoon sweet zest.
3. Remove crust from oven, set on a rack and cool 10 minutes. Reduce oven temperature to 325. Stir pie filling once to distribute zest, then pour into crust.
4. Bake pie 14 minutes or until filling is set. Cool half an hour before placing in freezer for at least two hours. Just before serving, whip cream; spread on top, sprinkle with remaining zest and garnish with mint. Yield: 8 servings.

3. In 5-quart saucepot, heat peels and enough cold water to cover to boiling over high heat. Boil 15 minutes. Drain peel and rinse. Repeat 2 more times to remove bitterness from peel.
4. In same pot, heat sugar, spring water, and corn syrup to boiling over high heat, stirring until sugar dissolves. Stir in peel and reheat to boiling. Reduce heat to medium and cook, stirring occasionally, until most of the syrup has been absorbed 45 to 55 minutes.
5. Arrange pieces of peel in single layer on wire racks set over trays or waxed paper. Let candied peel dry at room temperature, lightly covered with waxed paper for several days. Store candied peel with waxed paper between layers in airtight container in cool dry place.

### SEVILLE ORANGE MARMALADE

Makes 5 eight-ounce jars

#### Ingredients:

5-6 Seville Oranges  
 2 quarts water  
 6 3/4 cups sugar  
 Cardamom  
 Cinnamon sticks

#### Directions

1. Scrub fruit, place in a large bowl, and cover with boiling water. Let stand 2 minutes, then drain. Remove peel in thin slices with a zester, or cut off with a sharp knife into thicker pieces, as desired. Tie peel in a piece of cheesecloth with cardamom seeds (from the pod) and broken up cinnamon sticks to preference (recommend use about 1Tbs seeds, 2 sticks); set aside.
2. Chop remaining pith and fruit into small pieces. You can do this with a food processor, but do not puree.
3. Combine chopped fruit, cheesecloth bag, and water in a 4-quart stainless-steel pan. Cover, and simmer 2-3 hours over low heat, until reduced by almost half. Remove cheesecloth bag, and set aside.
4. Strain contents of pan, pressing to extract liquid. Discard solids, and return liquid to pan. Add sugar and dissolve over low heat. Bring to a boil. Add peel from cheesecloth, and simmer over medium heat, until mixture reaches 221 degrees on a candy thermometer or falls in sheets from a spoon, about 1 hour.

## Food Safety Protocol

Establishing harvest protocols and training staff and volunteers how to properly pick and process produce on campus protects the public from possible food borne illness.

Harvest training consists of learning how to:

- Spot and discard any moldy, split or animal damaged fruit. Also, discard any fruit that drops to the bare ground.
- Picking techniques specific to produce type (e.g. twisting citrus to prevent the stem from pulling out a hole in the peel).
- Set up a hand washing station. Personal hygiene and frequent hand washing is extremely important.

The ASU Food Safety manager needs to be notified before any large scale harvest is scheduled.

Veronica Oros, Manager  
 Food Safety and Health Sanitarian  
 Phone (480) 956-6853  
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## Supplies Needed

- ✓ Good quality washable receptacle to hold produce. Crates or bins must be food grade plastic or new unused cardboard boxes or paper bags can be used.
- ✓ Sanitary gloves are needed to pick herbs or sort fruit (gloves must be latex free).
- ✓ Fruit picking poles or clean kitchen scissors for herbs.
- ✓ Pallets or tables to keep produce receptacles off the ground.
- ✓ Dispensing jug of warm water, liquid soap and paper towels.

- ✓ Trash receptacle for paper towel waste.
- ✓ Used boxes for discarded or spoiled produce (the discarded fruit is donated to feed livestock).

**For groups of volunteer pickers,** a hand washing station needs to be set up at the picking site with a dispensing jug of warm water, liquid soap and paper towels. Receiving crates or bags at the picking site are never placed directly on the ground. Crates or bags must be placed at least 6 inches above ground on a clean pallet or table. Volunteers/staff must be trained on sanitary procedures and how to sort food grade campus produce.

### Post Harvest

All ASU campus kitchens are responsible for washing/storing produce properly. All produce must be thoroughly washed in kitchen prior to slicing or preparing. Kitchens should adhere to the same high standards as those used for commercial products. Cross contamination potential should be eliminated with designated cutting boards. Establish a specific site for washing produce and sanitizing food containers.

The juice from citrus can be frozen and used at a later date. All juice in the citrus industry is pasteurized, but ASU campus kitchens are exempt from this regulation. Campus kitchens should be aware of responsibility undertaken not to pasteurize juice.

## Produce Locations

### *Arboretum Herb Garden*

The herb garden is located near the north entrance to the Student Services building on Forest and Gammage roads. Many herbs and vegetables are planted seasonally. Any produce may be picked as needed for any campus kitchens.

1/3 cup olive oil  
6 to 8 cloves garlic, thinly sliced or minced  
2/3 cup sour orange juice  
1/2 tsp ground cumin  
Salt and freshly ground black pepper, to taste

1. Heat the olive oil in a deep saucepan over medium heat. Add the garlic and cook until fragrant and lightly toasted. Don't let it brown or it will be acrid tasting, just about 30 seconds should do it.
2. Add the sour orange juice, cumin and salt and pepper. **STAND BACK**; the sauce may sputter. Bring to a rolling boil. Taste and correct seasoning, if needed.
3. Cool before serving. Mojo is best when served within a couple of hours of making, but it will keep for several days, well capped in a jar or bottle, in the refrigerator. This sauce makes a great marinade for poultry, beef & pork.

### CANDIED CITRUS PEEL

Candied citrus peel is great for baking hot cross buns and fruit cake. It's also good by itself as a candy or dipped in chocolate - yum!

#### Ingredients:

6 – 10 large Seville sour oranges  
2 c. cane sugar  
1 ½ c. spring water  
½ c. light corn syrup

#### Directions

1. Slice stem and blossom ends off citrus fruit. Without cutting into the flesh, with tip of paring knife, score citrus fruit peel into quarters. With fingers, pull off peel; reserve fruit for another use. (I usually slice for salad) Repeat with remaining fruit. (If using thick skinned citrus like pomelos or navel oranges, remove peel as above but pull and discard as much of the peel's thick white membrane as possible.
2. Cut citrus peels into strips about 1/2 inch wide and 2 to 3 inches long. Or, using 1 1/2-inch-long by 1-inch-wide cookie cutters, cut peel into decorative shapes. When using cookie cutters, place peel on a cutting board and cut through the white side of peel; then, if necessary, use a rubber mallet or hammer to pound through peel.

2. In a large mixing bowl, combine flour, corn meal, granulated sugar, salt, zest, (and nuts). Add butter with fingertips or pastry blender until batter forms pea-sized crumbles.
3. Add egg yolk, stir with a fork until blended and knead dough until it comes together to form a ball. If too dry, add a little ice-cold water, if too sticky add 1 Tbs flour.
4. Roll dough into a ball, wrap in plastic and put into the fridge for about 20 minutes.
5. Preheat oven to 350°.
6. Bring out dough from fridge and roll with rolling pin until approximately 1/4inch thick. Sprinkle flour over surface and rolling pin to prevent sticking. *This can be any thickness desired. Thinner makes a nice crisp butter cookie. Also, a pint glass sprinkled with flour make a good substitute for a rolling pin.*
7. Cut dough with cookie cutters of choosing and place cookies on sheet. Gather remaining dough, repeat cutting and laying process.
8. Bake for 7-10 minutes, until desired preference of golden brown and let cool completely before frosting.
9. For icing: Squeeze oranges to get 3Tbs of juice. Whisk juice into confectioners' sugar until smooth and syrupy. Use brush or back of spoon to glaze the cookies. Let stand until glaze is set. The cookies will keep for up to a week in an airtight container at room temperature.

*Chilling is not necessary, but it's easier to form the dough into a log, freeze for 30 minutes, and slice off cookies to avoid rolling out/cookie cutter process.*

#### **NO FAT SOUR ORANGE SALAD DRESSING**

##### Ingredients

- Juice of 1 sour orange
- 1 cup plain yogurt
- 2 tablespoons honey
- 1 teaspoon chopped chives
- 1/2 teaspoon garlic salt

Mix well.

#### **CUBAN MOJO SAUCE MADE WITH ASU SEVILLE ORANGES**

This recipe makes one cup.

##### Ingredients

There is always an abundance of fresh rosemary, mint, garlic chives and cilantro any time of year. Pick as much as you need of these herbs anytime!

#### ***Citrus available Dec –Mar***

**Calamondin** – middle of Cady Mall in front of the MU entrance

**Kumquat** – oval ones in front of Language and Lit and north of MU, round ones in planters by Student Services

**Lemonquat** – two raised planters on northeast side of Gammage,

**Limequat** – four in planters just west of Physical Sciences F-Wing

**Lime** – between Cowden Family Resources and School of Evolution & Social Change.

**Seville sour orange** – most of the orange trees on campus

**Sour orange 'Bergamia' variety– bouquet des fleurs** – northwest corner of Psychology in planters by the picnic tables (vase-shaped trees that branch near base with waffly leaves), MU at the bottom of the steps going to lower entrance

**Rough lemon** – Cady Mall south of Matthews Center, southwest corner of Engineering G-Wing, west of Galvin Playhouse with other citrus

**Eureka lemon** – beautiful variegated leaves of white & green in planter along the east wall of Bateman

**Rangpur-lime** – north of Engineering along Tyler Mall

**Grapefruit** – north of Virginia Piper, southernmost corner of Palo Verde West, McClintock Hall courtyard.

**Pink grapefruit** – planter south of Palo Verde East, planter west of Social Sciences

**Tangerine** – against the fence in northwest courtyard of Manzanita Hall

**Sweet orange** – orange grove between Farmer building & Payne Hall, 3 trees near entrance of Palo Verde Main, several trees on east side of Lang. & Lit. building, McClintock Hall courtyard.

**Trifoliate orange** – one tree on south side of 6<sup>th</sup> St. just opposite the eastern most entrance to Parking Lot #59

**Sweet Bay** – north east corner of Matthews Center, one is at Psychology, and a trimmed sweet bay bush in front of Student Health.



Sweet Bay is up against the north column

**Pecan** – east side of Physical Education East, northwest corner of College of Law, north of Payne Hall, east of Old Main.

**White sapote** – secret garden between Dixie Gammage and West Hall. Ripe fruit starting in October.

**Japanese persimmon** – in front of Matthew Center, Hayden Library Pit.

**Surinam cherry** – one at the Zen Garden, eastern end of the northern moat around Hayden Library.

**Figs** - Several at Hayden Library pit and a few on the southwest side of the Pedestrian bridge.

**European olive** –west of University Club close to the big tree area (one of oldest planted around 1916), in front of Physical Education East, McAllister Mall south of Psychology, and throughout campus, Swan Hill variety east of Goldwater Center and west of Parking Structure #1

**Santa Rosa plum** – south of gazebo near Virginia Piper in the lawn west of the Virginia Piper Building

**Peach** – full-sized tree west of Virginia Piper, dwarf trees north of Virginia Piper, full-sized trees at Herb Garden & Hayden Library pit.

**Japanese plum** – west of Virginia Piper

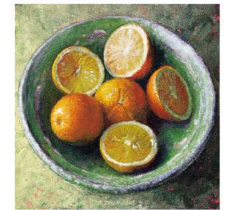
**Pomegranate** – west side of Matthews Hall along Forest Mall, white pomegranate north of Language and Lit

**Jujube, Chinese date tree** - courtyard south of Family Resources

**Quince** – small shrub east of dwarf peaches north of Virginia Piper

## SEVILLE ORANGE RECIPES

ASU Seville sour oranges can be substituted for lemon in any recipe. Freeze the concentrated juice in ice cube trays then turn out the cubes in freezer bags. The cubes will last all season. The juice makes great orangeade--cut the juice with water & sugar just like you would for lemonade.



### ASU SEVILLE ORANGE BUTTER COOKIES

*Makes about 3 dozen small cookies*

#### Ingredients

- 2 Seville oranges
- ½ cup + 2 Tbs Flour
- ½ cup corn meal or corn flour
- 1/3 cup granulated sugar
- 1 tsp fleur de sel (sea salt)
- 7 Tbs (3 ½ oz) chilled, unsalted butter, diced
- 1 large egg yolk
- 1 cup confectioner's sugar
- ½ cup finely ground, toasted nuts- *optional*

#### Directions

1. Grate orange(s) to yield 1-2Tbs of finely grated zest.