Backyard Bounty!

Edibles in Every Garden

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Backyard Bounty!

Edibles in Every Garden

THANK YOU!

This presentation is adapted from the **Green Gardener at Home** program series. Watch bewatersmart.info for the next offering Jan/Feb 2024.

Many thanks to Cheryl Buckwalter and Gail Pothour for gracious permission to use.

RFL Edibles

Edibles in your River-Friendly Landscape

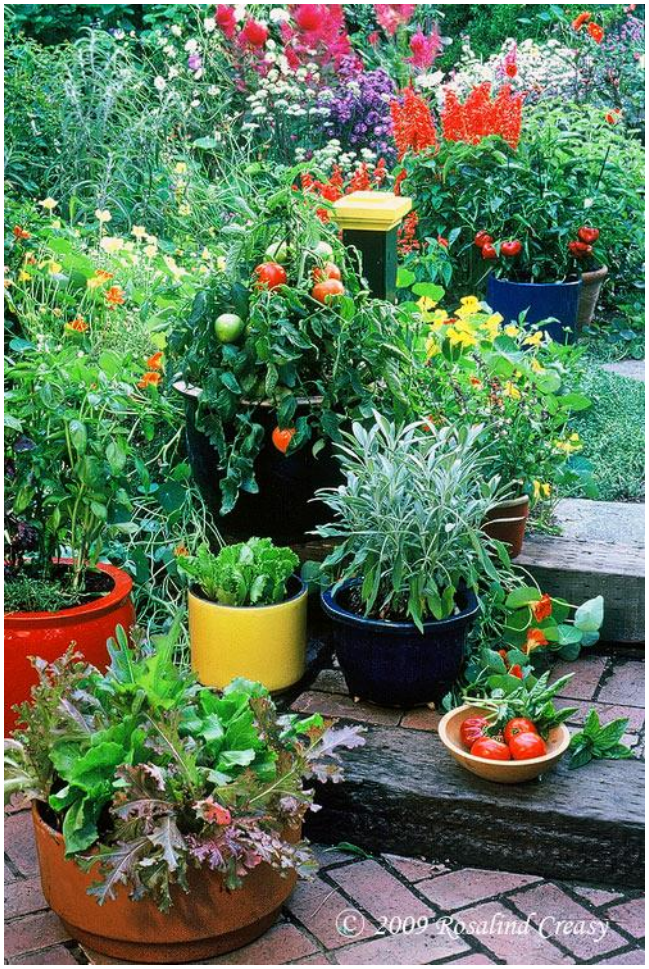
Edibles: Introduction

Why Grow Your Own Food?

- Better for the environment
- Post-harvest processing uses tremendous amounts of energy, water, packaging
- Freshness: Nutrients and quality decrease as time passes after harvest
- Healthy: Chemical/pesticide free
- A good way to relieve stress and anxiety
- More varieties available

Edibles: Introduction

Edibles: Introduction



Food can be grown in any size garden

Herbs, fruit trees, blueberries, and vegetables in containers

Edibles: Introduction

Rosalind Creasy: *"Edible Landscaping"*

Interplant edibles with your ornamentals

Start small by integrating tough vegetables and herbs that are not too fussy

Edibles

Interplant edibles with your ornamentals

Edible Flowers

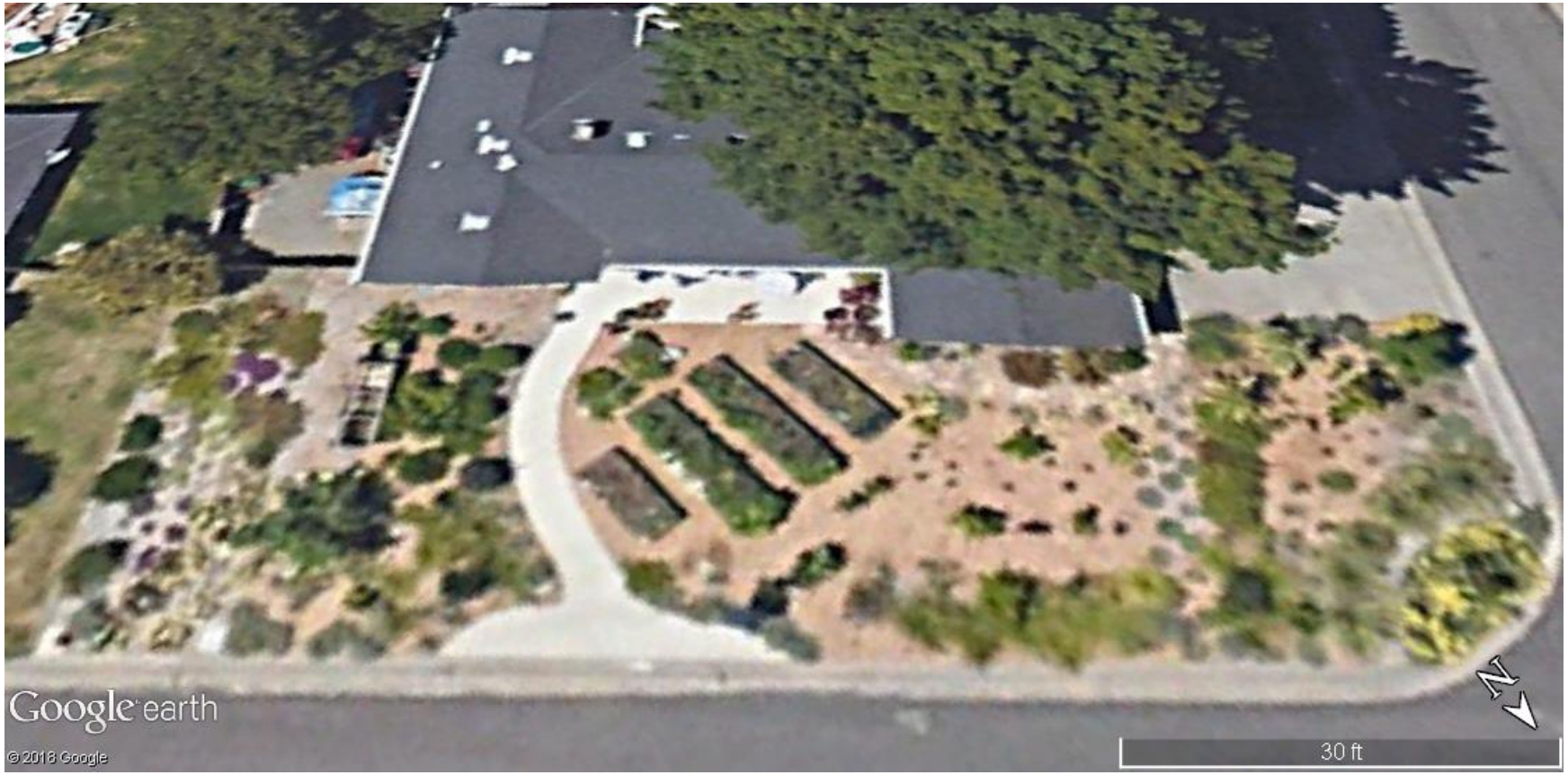
Edibles

Interplant edibles with ornamentals

- Cultural needs: Sun vs. shade, soil, pH, irrigation and nutrient requirements
- Some edibles may not be compatible with existing landscape plants

Edibles

Edibles



Let's be upfront about edibles…

Edibles

BEFORE……

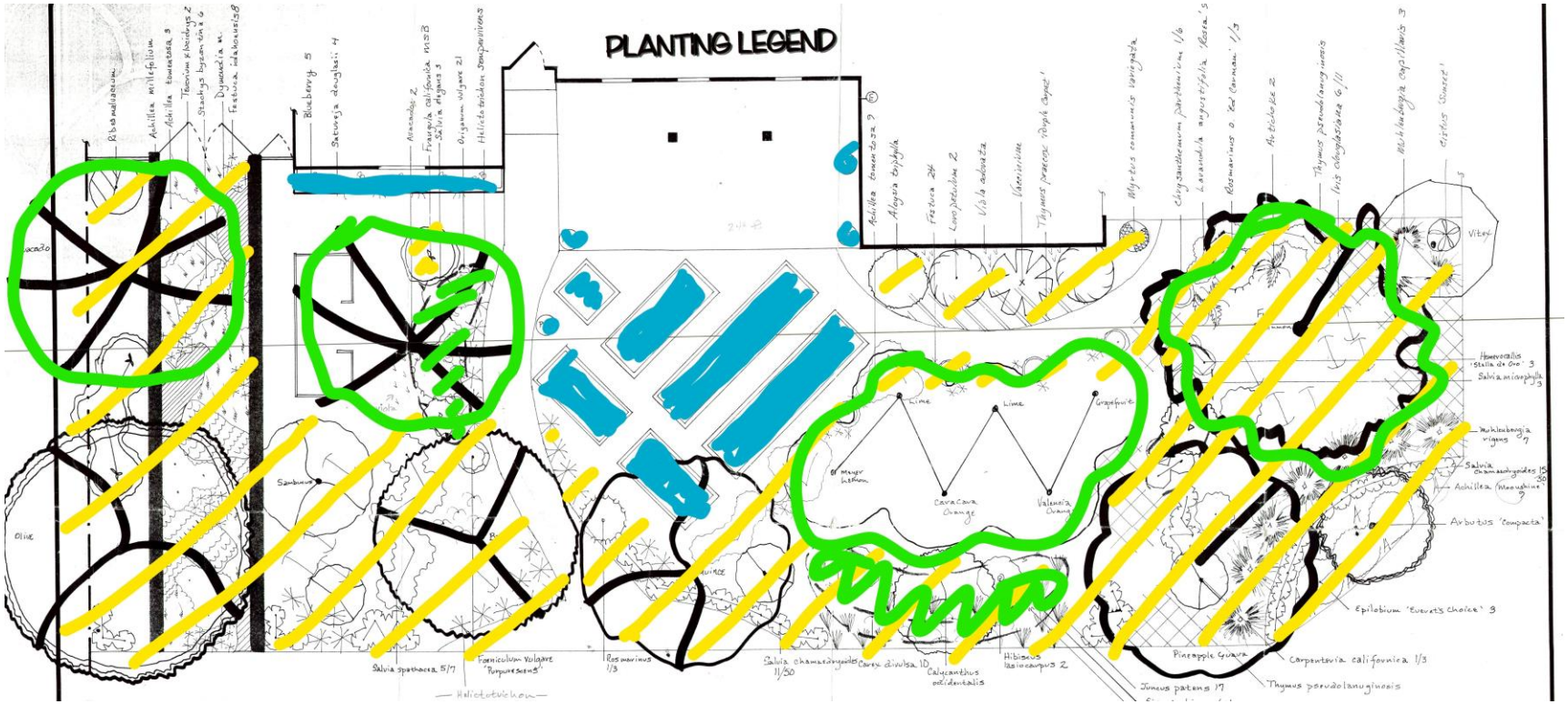
Edibles

Let's be upfront about edibles…

Edibles

Let's be upfront about edibles…

Edibles HYDROZONED



Edibles grouped by water use

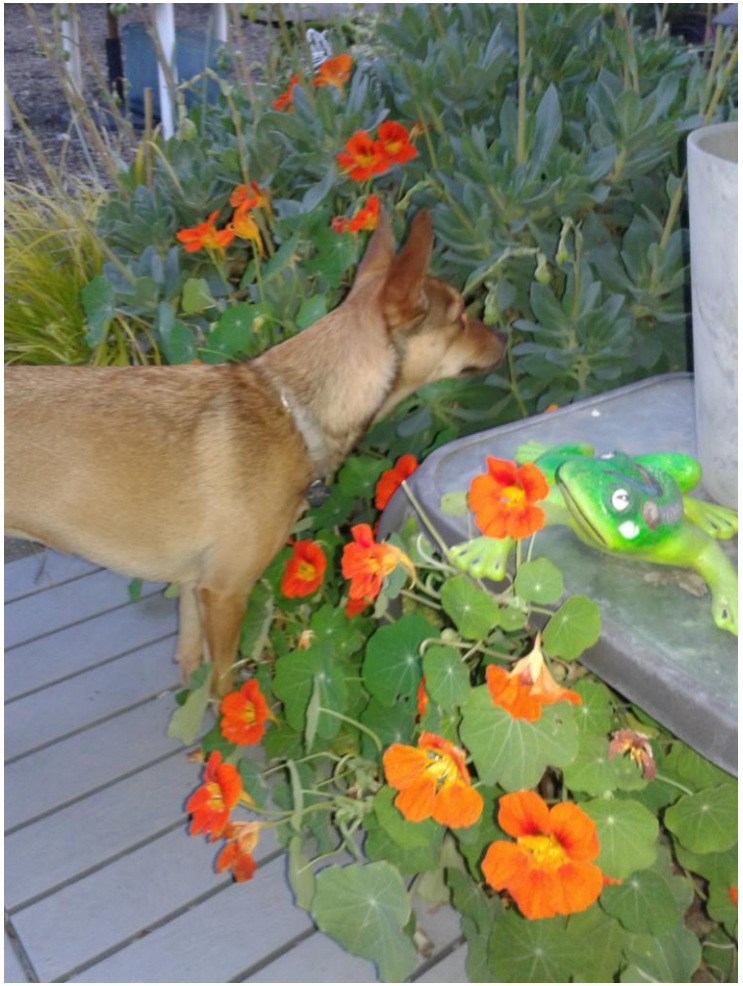
LOW WATER USE
Edible & Ornamental

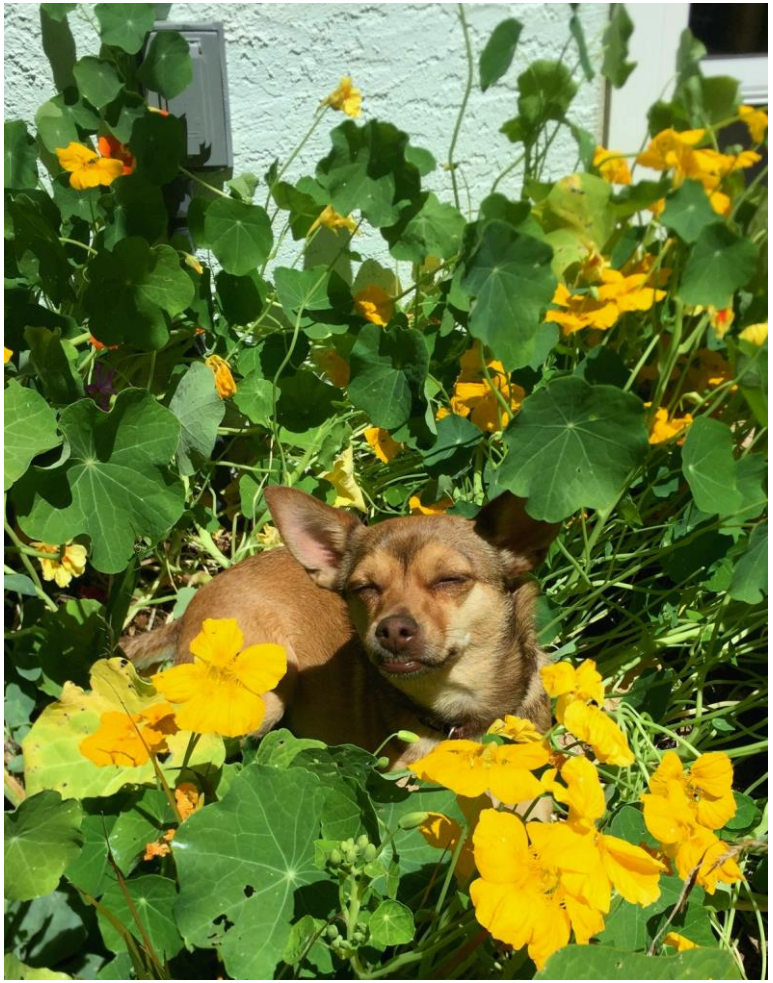
Edibles

Traditional dedicated vegetable garden beds

- Easier to amend soil and replant each season

Edibles





Edibles

Raised bed gardens can provide easy accessibility

Easily amended; neat and tidy; easy to install structures

Edibles

Community gardens

provide growing space, learning & social opportunities.

Edibles

Community gardens

Edibles

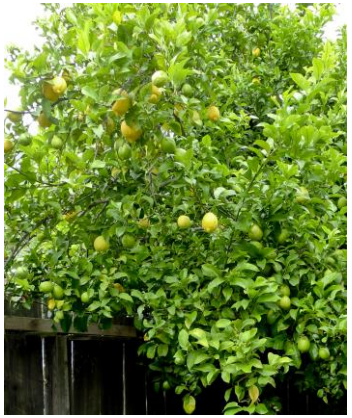
Edibles in your River-Friendly Landscape

Edibles: Landscape Locally

We are fortunate to be able to grow food year-round in our area

- Spring, summer, fall, winter vegetables
  (*see Sacramento Vegetable Planting Schedule*)
- Fruit harvest depending on fruit type



Edibles: Landscape Locally

Selecting and Adapting Fruits and Vegetables to the Home Garden

- Edibles like healthy soil and good drainage
- Level ground – can use terracing or build raised beds
- Learn your soil qualities and adjust accordingly…***get a soil test***
- Modern irrigation allows us to plant in the optimal location in the landscape

Edibles: Landscape Locally

- Consider air circulation, especially for fruit trees
- Protect from intense sun and frost (paint tree trunks, shade/frost cloth, lights)
- Full sun – 6 to 8 hours each day, but some vegetables require less

Edibles: Landscape Locally

- Grow varieties that are adapted to your climate and soils; purchase locally
- Follow local guidelines for the best time to plant and harvest vegetable varieties
- Plant vegetables with the same needs and likes together
- Plant herbs and flowers to attract beneficial insects and pollinators

Edibles: Less to the Landfill

Re-Use Materials Rather Than Buy New

- Reclaimed lumber (not creosote or pre-2004 pressure-treated)
- Re-purpose materials such as broken-up concrete
- Creative uses of materials can add beauty to the garden (old iron gates, ladders, etc.)

Edibles:
Less to the Landfill

Make your own Compost

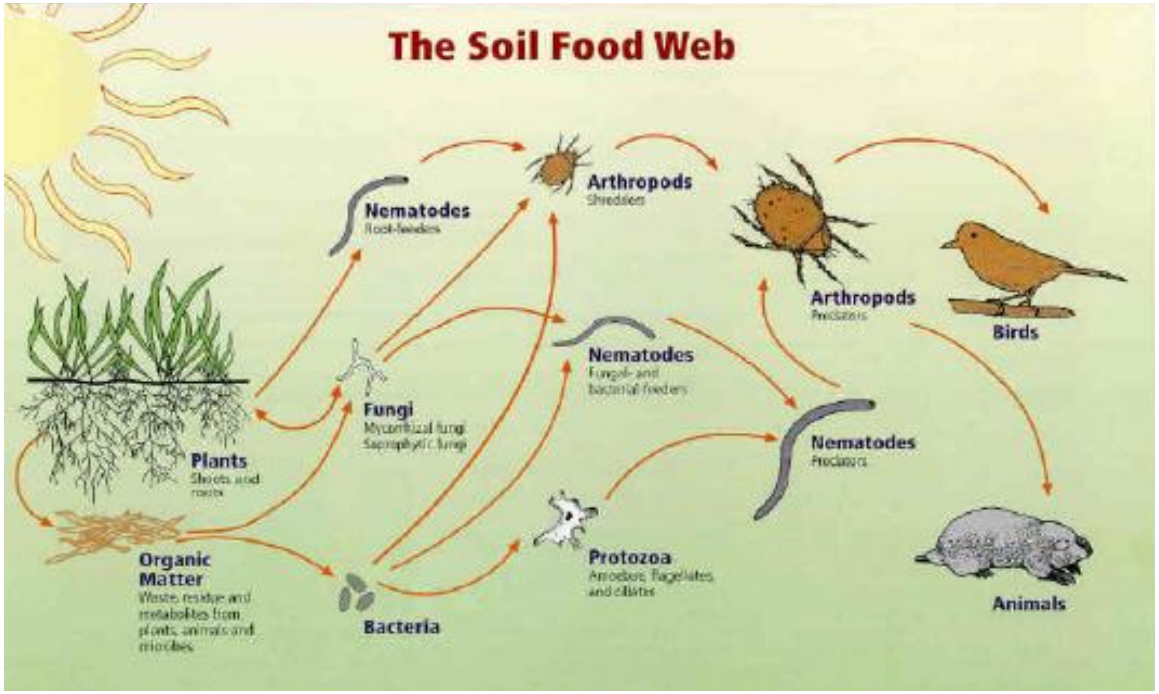
Collect leaves and plant trimmings, kitchen vegetable scraps, and herbicide-free grass clippings.

Or separate green waste so the city or county can compost it.

Edibles:
Nurture the Soil

Feed the Soil, Not the Plants

- Nurture soil organisms by adding organic matter
- Soil organisms make nutrients available to the plants



Edibles: Nurture the Soil

Become Acquainted with Your Soil

- Determine fertility and porosity and adjust as needed
  -- Soil test
  -- Edibles need good drainage (raised beds)
- Add compost to vegetable beds: Can add 2” to 4” during new bed initial preparation; add 1” when planting new crop or yearly
- Avoid walking on vegetable beds to prevent compaction

Edibles: Nurture the Soil

Mulch, Mulch, Mulch for Edibles

- Helps maintain balanced soil temperatures
- Increases water infiltration and retention (thin layers of shredded leaves and herbicide-free grass clippings)
- Improves soil texture, preventing soil compaction and controls erosion
- Provides a source of organic matter for the “Soil Food Web”
- Arborist wood chip mulches (good under fruit trees and edibles in landscape; also paths between vegetable beds)

Edibles: Nurture the Soil

Mulch, Mulch, Mulch for Edibles

- Add 1” to 2” of mulch after planting “starts”
- Plant seeds with thin layer of compost and slowly add mulch as plants grow
- Keep mulch away from woody trunks of fruit trees
- Do not mix wood chips into soil (okay to mix straw, grass, and decomposed leaves at end of season)

Edibles: Nurture the Soil

Fertilizers vs. Amendments

Fertilizers affect plant growth *directly* by increasing supply of nutrients in the soil

- Chemical/synthetic: Quick effect, easily leached out of soil, harms soil organisms, risk of "burn", water pollution
- Organic/natural: Slower acting, lasts longer**

  N: Cottonseed meal, corn gluten meal, blood meal

  P: Bone meal, fish meal, soft rock phosphate

  K: Greensand, sulfate of potash, kelp

**Peaceful Valley Farm & Garden Supply catalog is good source (see Edible Gardening Resources handout)

Edibles: Nurture the Soil

Fertilizers vs. Amendments

Amendments affect plants *indirectly*

- Improve physical characteristics of the soil
  - texture and structure
  - improves water retention in sandy soils and drainage in clay soils
- Improve habitat for soil organisms allowing them to assist roots in accessing water and nutrients
- Supply small amounts of nutrients

Edibles: Nurture the Soil

Natural Amendments

- Compost
- Worm castings
- Coir
- Composted manures
- Cover crop residue
- Grass clippings (herbicide-free)
- Shredded leaves

Edibles: Nurture the Soil

Cover Crops, aka "Green Manure"

Crops grown in off-season or rotated with food crops to:

- Replenish nutrients
- Protect and enhance soil structure
- Prevent soil erosion
- Produce organic matter
- Improve soil tilth

See "Cover Cropping in Home Vegetable Gardens" handout

Edibles:
Nurture the Soil

Examples of Cover Crops (Cool-Season)




BREAK TIME

Edibles: HYDROZONING to Conserve Water

- Food crops need a steady supply of water throughout the growing season
- Mulching fruits, vegetables, and trees can save up to 25% or more water loss depending on soil structure
- There are ways to irrigate edibles more responsibly so that water is not wasted

Edibles: HYDROZONING to Conserve Water

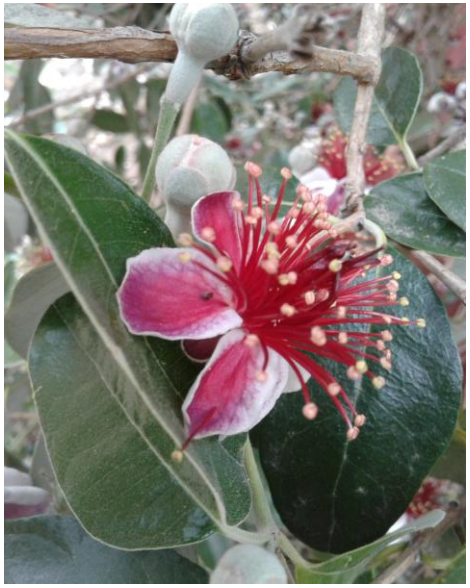
- Typically considered moderate to high water use plants. But some edibles can adapt to low water with proper care
  - Expect reduced plant growth, yield, aesthetics
  - Very few drought-tolerant vegetables
  - Consider growing herbs or edibles from arid climates (see Soleil's list!)
- Consistency! Avoid wide fluctuations in soil moisture

Edibles: HYDROZONING to Conserve Water

- Low-water use edibles handle wider fluctuations in soil moisture
- Native to other dry climates: the Mediterranean, Australia, South Africa, & the Middle East
- Artichoke, Pomegranate, Fig, Pineapple guava, Rosemary, Sage, Grapes, Loquat, Thyme, Lavender, Olives, Bay. (but not Parsley, it's thirstier)

Edibles: HYDROZONING to Conserve Water

Artichokes and Pineapple Guava are *low water use* edibles that handle wider fluctuations in soil moisture



Edibles: Conserve Water

Edibles require a more "hands-on" approach to irrigation

- Edibles should be on their own valve(s) or zone
- Match with other plants of similar needs if inter-planted in the landscape
- Be sure to adjust controller as plants mature and the season progresses (the weather changes)

Edibles: Conserve Water

Methods of Irrigating Edibles

Poly-tubing with emitters attached where you want them

Edibles: Conserve Water

Methods of Irrigating Edibles

Drip tubing with built-in emitters at regular intervals

- Hunter Industries
- Netafim Techline & Miniscape
- Rain Bird
- Raindrip

May require more diligence to notice leaks and troubleshoot problems

Edibles: Conserve Water

Methods of Irrigating Edibles

Soaker hose

- Uneven application along length
- Hard to measure output
- Limited lifespan

Edibles: Conserve Water

Methods of Irrigating Edibles

- Irrigate at soil surface (drip irrigation)
- Overhead irrigation invites disease
- Hand watering may be best solution when vegetables are newly planted until established
- Shrubblers provide good coverage in containers.

Edibles: Conserve Water

Methods of Irrigating Fruit Trees

- Ring of drip

  Expand, add emitters as tree grows

- Microsprays

  Be careful not to wet trunk; more evaporation

Edibles: Conserve Water

Gray Water

Untreated household waste water

- Includes used water from bathtubs, showers, bathroom wash basins, and water from clothes washing machines and laundry tubs
- Does NOT include water from toilets, kitchen sinks, dishwashers, or laundry of diapers

See “Use of Gray Water in Urban Landscapes in California”

(ANR Publication 8536, Edible Gardening Resources handout)

Edibles:
Conserve Water

Gray Water L2L

Laundry to Landscape

Edibles: Conserve Water

Gray Water

- NOT for root vegetables, greens, etc.
- May be suitable for fruit trees if system has been properly designed

  -- Only use “garden-friendly” salt-free soaps and detergents

Rainwater Collection

- To be safe, it should not be used on edibles

See CDC article on “Drinking Water and Rainwater Collection”

(Edible Gardening Resources handout)

Edibles: Conserve Energy

Fruit Trees as Shade Trees

- Plant on west or south side of house to provide shade in summer
- Leaves drop in fall, allowing sunlight and warmth in
- Downside: May need ladder to harvest

Edibles:
Conserve Energy

Edibles as Shade Trees

Edibles: Conserve Energy

Energy Costs of Store-Bought Produce

- Transportation, mechanized farm & processing equipment
- Plastic packaging is petroleum based
- Inorganic fertilizers and pesticides take large amounts of energy to manufacture

Home Grown…No Need for Power Equipment

- Tilling destroys soil structure and the soil life (microorganisms in soil)

Edibles:
Protect Air & Water Quality

Water Run-Off Pollutes Our Waterways

- Soil Sediment
- Pesticides • Fertilizers

Protect local waterways & groundwater:

Avoid chemicals
Avoid over-irrigation

Edibles:
Protect Air & Water Quality

Water Run-Off
Pollutes Our Waterways

- Utilize compost, mulch, and cover crops to slowly add nutrients to soil and keep soil more porous
- Choose natural amendments and slow-release fertilizers
- Avoid applying unnecessary fertilizers…only what is indicated by soil test

Edibles: Protect Air & Water Quality

Avoid Pesticide Use

Use Integrated Pest Management (IPM)

Step #1 = **PREVENTION. Use proper cultural practices:**

- Correct irrigation, drainage, and soil care
- Good air circulation by proper plant spacing of fruit trees
- Sanitation: Remove diseased plant parts

Edibles:
Protect Air & Water Quality

Avoid Pesticide Use

Choose resistant varieties

- Hybrid tomato varieties (VFN)
- Powdery mildew resistant cucurbits
- Root stock of fruit trees

Crop rotation

- Mitigates the build up of pathogens and pests
- Improves soil structure and fertility

Edibles:
Protect Air & Water Quality

Avoid Pesticide Use

Use Integrated Pest Management (IPM)

Physical/Mechanical Controls

Stomp, Squish, Squirt, Trap

Edibles:
Protect Air & Water Quality

Avoid Pesticide Use

Use Integrated Pest Management (IPM)

Physical/Mechanical Controls

Barriers, exclusion: Mesh screens, row covers, fences, cardboard rings, copper tape, chicken wire

Edibles:
Protect Air & Water Quality

Natural Pest Control

Attract Natural Predators: the Good Guys

Beneficial insects, birds, toads, etc.

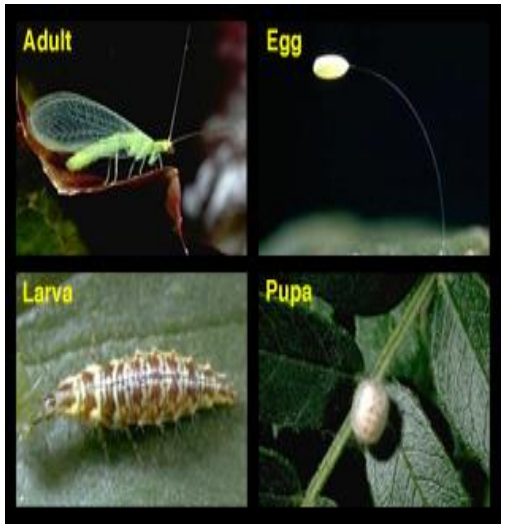
Lady beetle

Syrphid fly/Hover fly/Flower fly

Photos from UC IPM Natural Enemies Gallery

Edibles:
Protect Air & Water Quality

More Natural Predators: the Good Guys



Green lacewing

Parasitic wasp

Predaceous ground beetle

Photos from UC IPM
Natural Enemies Gallery

Edibles:
Create Wildlife Habitat

Plant Insectaries for Beneficial Insects

- Avoid broad-spectrum pesticides
- Plant flowers and herbs that bloom throughout the year
- Include water

Edibles: Create Wildlife Habitat

Provide Habitat for Birds, Frogs, Toads, Lizards, and Beneficial Insects

Habitat = Shelter + Food + Water

- Grass family (perennial grasses)
  -- Habitat and early-season pollen
- Include water, such as a birdbath
- #1 thing you can do to promote good habitat is NOT use pesticides

Edibles: Create Wildlife Habitat

Sharing with Wildlife

- Our food is also attractive to wildlife (birds, insects, and vertebrate animals)
- Decide if you want to share, and if so, how much

Edibles:
Create Wildlife Habitat

Edibles: Create Wildlife Habitat

Protecting Crops from Wildlife

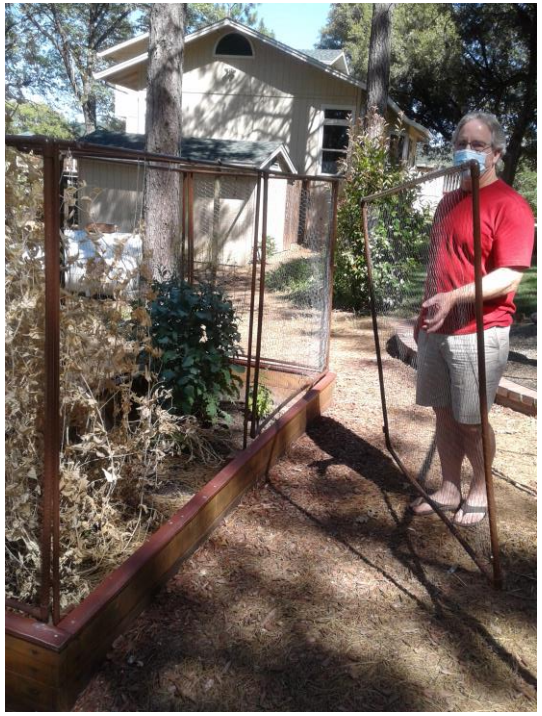



- Mylar “scare tape”, CD’s, or other visual repellants
- Bird netting on trees to protect fruit
- Various types of cages and fencing to keep out wildlife
- Line bottom of raised beds to keep out rodents

See UC IPM website on Edible Gardening Resources handout

Edibles:
Create Wildlife Habitat

Protecting Crops from Wildlife



- Serious custom fencing to keep out wildlife in the foothills

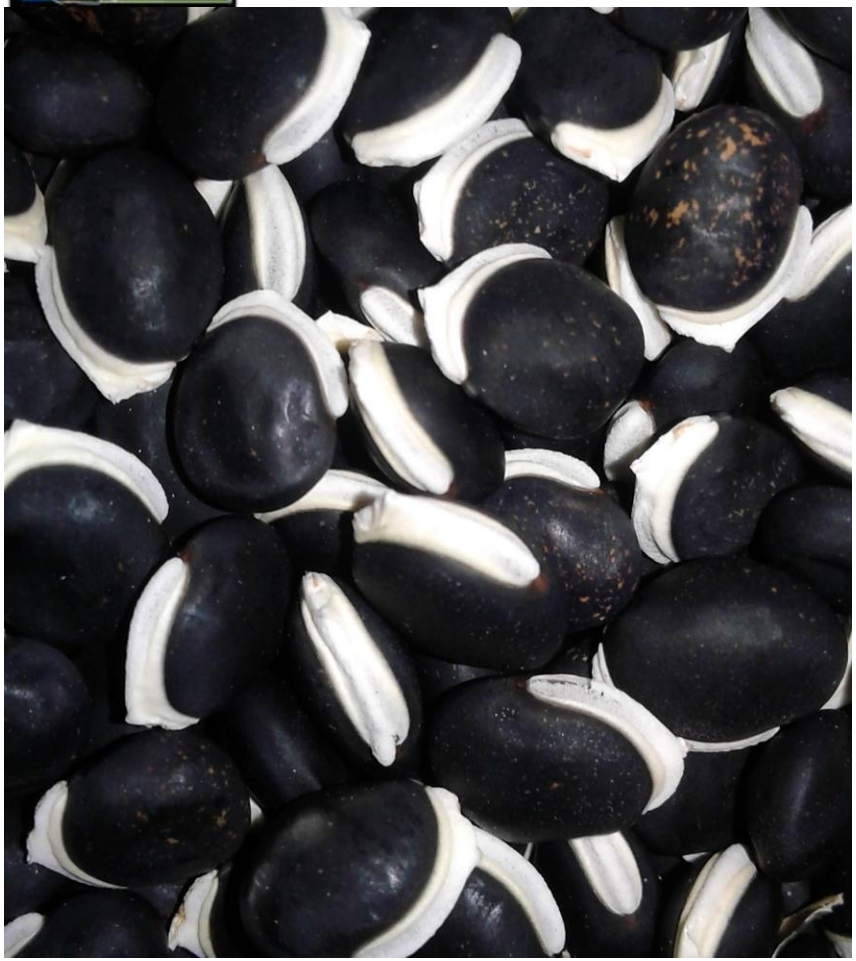
Edibles:
Create Wildlife Habitat

Protecting Crops from Wildlife

Conclusion

- Ditch the lawn
- Plant an edible tree
- Eat your garden!

Edible Gardening the River-Friendly Way



Thank you!

For more resources & information, contact:

U.C. Cooperative Extension
Master Gardeners
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sacmg.ucanr.edu