

# Summer Edibles – The Heat Lovers or.....How to beat the heat and still eat!



The Garden Academy  
Series: Edible Gardening  
Unit: Summer Veggies

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- 50+ years in industrial piping design and drafting/consulting
- 5+ years farm management
- Lifelong gardener, hobby beekeeper, hobby chicken keeper
- The Garden Academy Website & Facebook
- Garden Writer's Association
  - Blogger – The Arbor Gate, Quality Feed & Garden Company, Webmaster: RandyLemmon.com
  - Regional Feature – Fine Gardening Magazine
  - Feature – Houston House & Home
  - Guest – Gardenline with Randy Lemmon – KTRH 740
  - Guest – Houston Life – KPRC Channel 2
  - Educator – The Arbor Gate, Tomball Texas; Urban Harvest/Houston Museum of Natural Science; College of the Mainland
  - Speaker – OHBA, nurseries, horticultural conferences & events, garden clubs
- California Rare Fruit Grower's Association
- Louisiana Society for Horticultural Research
- Texas Master Gardener 2000 (retired)
  - State MG of the year 2004
  - Certifications in Plant Propagation, Rainwater Harvesting, Greenhouse Management, Entomology
- Texas Master Naturalist 2001
- \*\*\*I do not represent the TMSG or TMN organizations for this program. They are part of my garden experience and I highly recommend these programs for their value to the individual and the community. For information about joining these organizations, contact your local agricultural extension office.

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## Climate

- Houston's climate has long hot summers and mild winters
- Less temperature variation than many areas
  - Between seasons
  - Between night & day
- Seasons overlap
  - Late fall and early winter
  - Late winter and early spring
- Practically, our year is divided into three growing seasons

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## The Three Season Calendar

- Spring
  - Feb, March, April, May
  - February is a transitional Winter/Spring month
  - May is a transitional Spring/Summer month
  - These transitions are unpredictable and can change from year to year
- Summer
  - June, July, August
  - August is a preparation month for the Fall/Winter garden
- Fall/Winter
  - September, October, November, December, January

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## Warm Weather Crops

- Must be divided
  - Cool-Warm
  - Warm-Hot
- Plant Cool-Warm in mid-spring; Feb - Mar
- Plant Warm-Hot in late-spring to late summer; April - August

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## Warm Season Crops

- Beans & Field Peas
- Corn
- Okra
- Squash-Melon-Cucumber
- Sweet Potato
- Tomato-Pepper
- Herbs



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## The Summer Challenge

- Summer is the peak of the veggie season for most of the nation
  - They label “warm season crops” as those that prefer growing in 70°F – 75°F!
- Most difficult growing season for the Gulf Coast
  - Temperature & humidity
  - Drought-deluge cycles
  - Insect & disease pressure
- Uncomfortable for gardeners
- There are ways to overcome all of these and have a productive garden all summer

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## Basics of good gardening still apply

- All gardens are more successful when proven practices are applied
- We will apply all of the basics, but will make some adjustments for the summer garden
- Site Location
- Bed Preparation
- Fertilization
- Crop Rotation
- Planting Techniques
- Mulching
- Watering

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### Choosing a site

Site selection is an important part of a successful edible garden. You must have the right conditions for plants to grow and thrive.

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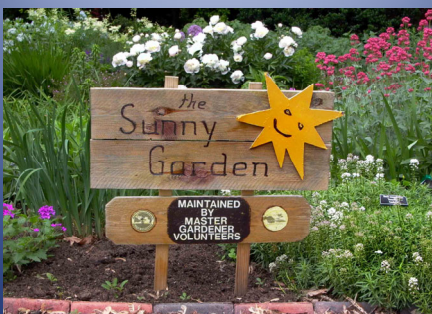
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6 – 8 hours of sun



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Drains quickly after rainfall



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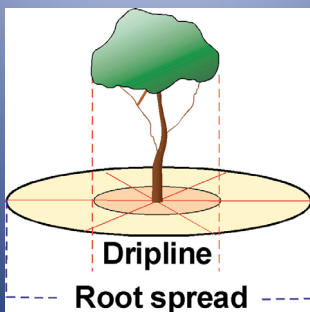
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Avoid tree root zone



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### Convenient location



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### Bed Preparation

Good bed preparation is the foundation of a great garden. No shortcuts here! Raised beds work best in our soils. Borders and bed shape are your chance to be creative.

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### What is an Ideal Veggie Bed Soil?

- pH 6.0 – 6.5 (Slightly acid)
  - Nutrients are more available in soils with pH between 6.0 – 7.0
- 25% – 30% Organic Matter
  - Compost also tends to balance pH
- 50%+ Pore Space
  - Spaces for air, water, macro- & micro-organisms
- Texture - Sandy Loam

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### Bed Mix

- Vegetable garden mix
  - Equal parts topsoil, sand, compost
  - Add additional compost if desired
- Rose soil



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### Improved native soil

- Compost
- Expanded shale or large particle sharp sand
  - Expanded shale assists moisture control
- Rock minerals
- Greensand
  - Loosens clay soils, provides potassium, trace minerals
- Mychorrhizal fungi

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### Local is best



- Caters to local climate and soil conditions
- Locally sourced components
- Tested by local experts and experienced gardeners

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### Fertilizing

Fertilizer is required to provide the nutrition plants need that is missing from our soils. Organic fertilizers and supplements build soil and support the Soil Food Web – a critical growing environment.

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### Go organic

- Sustains healthy soils
  - Improved texture
    - Pore (air) spaces
    - Balance between drainage and water retention
  - Preserves the Soil Food Web
    - Macro- and Micro-organisms that break down organic material, nutrients and minerals to feed plants
- Long-term benefits to health
  - Plants
  - Family
  - Pets

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### With nature – “on demand”

- Nutrients in slow release organic fertilizers are available as the plants need them
- Work with nature
- Non-burning
- Less chance of leaching out of the soil



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## Summer's Catch-22

- Warm temperatures drive:
  - Rapid growth
  - Faster water uptake
  - Higher nutrient demand
- But....if the nutrients are made available in highly soluble, synthetic form, fertilizer burn can occur



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## Fertilizers to use

- Slow release organic fertilizers are best
  - Organic sources of major nutrients
  - Trace nutrients
  - Rock minerals
  - Molasses to support micro-organisms
  - Mycorrhizal fungi
- Work best when placed in the soil 2 weeks before planting
- Gives soil microbes time to break them down into water soluble form

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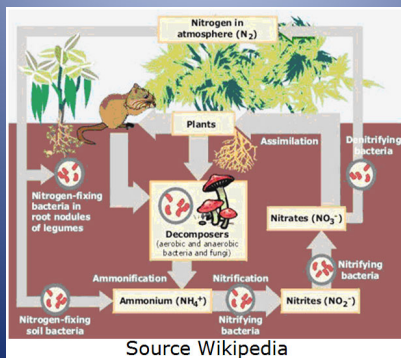
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## Bacteria & Fungi Make nutrients available to plants



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### Microbes are subject to summer stress

- Microbial activity can slow in summer heat
- Work to provide a supportive environment
  - Even moisture with no extremes
  - Mulches to shade and cool, reduce UV
  - Shading the soil with leaf cover
  - Organic matter
  - Dried molasses
  - No synthetic fertilizers

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### How to apply SROF

- All commercial packages have application rates and frequencies
- 1/2 cup per square foot to establish a new bed
- Mix into top few inches of soil



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### Refresh between crops

- Fertilize vegetable plots between each crop
  - You can reduce the amount to 1/4 cup per square foot after your initial application
- You will apply several times a year with Succession Planting practices
  - Remove old crop residue
  - Add fresh compost, fertilizer, and dried horticultural molasses

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## Compost can reduce fertilizer use

- Nature's nutrient balancer-booster
- Corrects soil composition
- Increases plant's ability to use available nutrients

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## Foliar feeds



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## Foliar feeding

- Provides quick uptake of nutrients
- Quick way to correct mineral deficiencies
  - Faster absorption of minerals than root feeding
- Thickens cuticle – a waxy protective leaf coating
- Increases immunity to diseases and pests
- Reduces stress

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### Epsom salts

- Magnesium sulfate, not a sodium "salt"
- Does not build up in the soil
- Helps seeds germinate
- Makes plants grow bushier
- Produces more flowers
- Increases chlorophyll production
- Improves absorption of macronutrients (NPK)
- Reduces stress

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### How the elements work

- Magnesium
  - Critical mineral for seed germination
  - Vital to production of chlorophyll
  - Aids absorption of nitrogen and phosphorous
- Sulfur
  - Makes macronutrients (NPK) more readily available
  - Contributes to chlorophyll production

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### Using Epsom Salts

- Can be used mixed with foliar feeding or as a stand alone spray
  - (1) TBLS per gallon of water
- Garden Startup
  - Sprinkle 1 cup per 100 square feet, mix into soil before planting
- Tomatoes & Peppers
  - (1 ) TBLS per foot of plant height per plant; apply to soil around plant every two weeks

Sage: Do not apply! This herb is one of the few plants that doesn't like Epsom Salt

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### Planting

This is where the fun starts!

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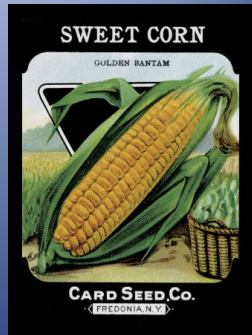
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### Transplants & Seeds



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### Seeds are for summer

- Most summer veggies should be direct seeded
- Most do not appreciate any root disturbance
- You can use "plantable" pots



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Pay attention to spacing



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Plant densely to shade the soil



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Interplant tall plants and climbers to shade the soil



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### Mulching

Mulch is one of the most important elements of gardening . It is part of a continual soil building program, so knowing what to use and how to apply it is imperative.

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### Mulching

- Not all mulches are created equally – buy quality from a trusted supplier
- Use organic mulches only
  - No dyed mulch products should be near edible plants
- 3” – 4” of mulch can dramatically reduce soils temperature

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### Mulching Vegetables

- Compost is a good mulch for most vegetables
- Mown or chopped leaves
- Pine straw
  - Breathes and keeps veggies clean
- Tree leaves can be used for tall single crops like okra, eggplants, peppers



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### Watering

Watering practices are critical to the overall health and beauty of your garden. Water is a critical resource - one required to sustain life.

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### Know when to water

- Early morning
  - Cooler temperatures reduce evaporation
  - Allows plants to fully engorge before the heat of the day
  - Allows leaves to dry out quickly which reduces water-borne diseases
- Late afternoon is next best
- You will water more often in July and August; perhaps every day

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### Know how to water

- Water frequently while germinating seeds
- Water deeply to encourage deep root growth
  - Deeper roots withstand drought better
- Do not let vegetable plants reach the wilt point, it will affect flavor and quality

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### Hand water using a water breaker



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### Drip Irrigation is efficient & economical



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### Work With Your Shade

Many veggies will grow in less than 6 – 8 hours of sun

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### These need only 3 – 6 hours of sun

- Arugula
- Asian greens (many)
- Snap beans
- Beets
- Bok Choy
- Broccoli
- Brussels sprouts
- Carrots
- Cauliflower
- Chard
- Chives
- Cilantro
- Garlic
- Greens
- Kale
- Lettuce
- Mint
- Mustard Greens
- Parsley
- Peas
- Potatoes
- Radishes
- Scallions
- Sorrel
- Spinach
- Turnips

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### Combine sun lovers with shade lovers



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### Use moveable covers



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### Floating Row Cover



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### Greenhouse shade cloth



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### Additional Summer Techniques

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### Use Self-Watering Containers



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### Grow Vertically

- Improves air circulation
  - A big summer disease manager
- Shades plants on north or east side
- Allows inter-planting at the base



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Be creative, you could garden under this Luffa arbor



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### The Summer – Fall Transition

- August is the month where you will have one foot in the summer garden, and one foot in the fall garden
  - Many fall garden transplants should be started in August
    - SWCs are a good place to start transplants
    - Start indoors or in a shady spot – most want to germinate in cooler soils

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### The Summer – Fall Transition

- As you pull out the last summer crops, refresh the soil and mulch well in preparation for fall planting
- Some fall crops can be under-planted with tall summer crops such as Okra, leaving the Okra until first frost
- Do not pull the plants of summer beans (field peas) – cut them at soil level to allow the nitrogen-fixing nodules to decompose and feed the soil

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### Beans & Field Peas

- Green (snap) beans
- Roma beans
- Asparagus (yard long) beans
- Winged beans
- Lima beans
- Runner beans
- Purple Hulls
- Crowder peas
- Black-eyed peas
- Pinto beans




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### Corn

- Golden Bantam (1922 heirloom)
- Sweet corn hybrids



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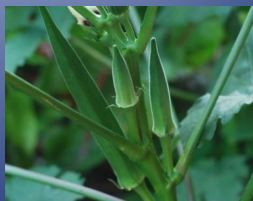
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### Okra

- Start early, long season
- Harvest daily
- Cut back by 1/3 in late summer
  - Stimulates branching



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### Squash-Melon-Cucumber

- Summer squash
- Winter squash
- Gourds
- Ice Box melons
- Sugar pumpkins
- Slicing and pickling cucumbers
  - Burpless or Suyo style



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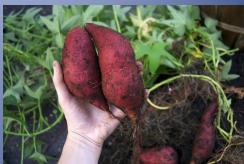
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### Sweet Potato

- Trellis in the home garden
- Fewer tubers, but large
- Harvest greens
  - Use like spinach
  - Omletes, soups, pastas
- Might be the perfect “guerilla gardening” plant




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### Tomatoes-Peppers-Eggplant

#### Tomatoes

- Extend harvest with foliar feeds and light weight row cover

#### Peppers

- Epsom salt aids in production
- Foliar feed
- Shade large peppers from sunburn

#### Eggplant

- Do not allow soil to become too dry
- Shade fruits from sunburn




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### Other Summer Selections

- Basil
- Ginger
- Salad burnet
- Summer savory
- Thyme
- Arugula
- Chard
- Endive
- Malabar spinach

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## Contact Us

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