



Warm Season Vegetables

What to plant and when...

Tender vegetables:

Can be planted on or after the average frost-free date

- Beans, sweet corn, summer squash and tomato transplants



Warm-loving vegetables (very tender):

Plant after all danger of late frost has passed, at least two weeks after average last frost-free date

- Lima beans, peppers, cucumbers and melons

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"The Foundation of the Gator Nation"

Test for pH and Nutrients

- Taking the sample
 - Identify area to be sampled
 - Sample the root zone depth (2-4 inches for turf and 6-8 inches for landscapes and vegetables)
 - Remove soil from several spots in sampling area and mix together (approx. 2 cups (1 pint))
 - Remove any plant material or mulch
 - Mix soil in container to ensure it is well blended
 - Soil must be dry for testing



Landscape & Vegetable Garden Test Information Sheet

<http://edis.ifas.ufl.edu/pdf/SS/SS18700.pdf>

Figure Credit: Amy Shoher, UF-IFAS

Feed the Soil and the Plants Will

Thank you

- Work the top 10-12 inches of soil at least 3 weeks before planting
- Amend the soil by spreading a minimum of 3 to 4 inches of organic matter & mix in the top 6 to 12 inches
 - Animal manure; leaves; compost
- Be generous
 - Organic matter improves soil structure and adds nutrients
 - Compost improves soil structure, texture and aeration
 - Adding compost to the garden is not a one time deal

"Organic Vegetable Gardening" "Florida Vegetable Gardening Guide"

Make the Most of a Limited Space



The American Horticultural Therapy Association
<http://www.ahta.org>

Saddle Decking - TREX
 Recycled plastic bags
 and wood fibers



"Gardening in Raised Beds"
 By Terry DelValle

ACQ Treated Lumber

In-Container Soil & Potting Mix

•Commercial Ready: Use Soilless Mix or Make Your Own

Always moisten soil uniformly before planting...



Mixes with Organic
 Material and/or
 Fertilizer



"Minigardening (Growing Vegetables in Containers);

Fertilizer Options - Follow Label

- **DRY**

6-8-8	6-6-6
5-10-10	8-8-8
8-16-16	10-10-10
 - **WATER SOLUBLE**
 Peters, Miracle-Gro, Shultz
 - **TIME-RELEASE**
 Osmocote 14-14-14
 - **RAW MATERIALS**
 - Compost
 - Cover crops
 - Plant and Animal-base sources
 - Fish Emulsion, Bone-Meal, Kelp
 Cottonseed-Meal, Worm Castings with many more options
- Vegetables need nutrients to grow!!**
- First number is the per cent of nitrogen
 -Promotes green growth
 - Second number is the per cent of phosphorus
 -Promotes root growth and fruit development
 - Third number the per cent of potassium
 -Promotes disease resistance and root development

"Organic Vegetable Gardening"; "Minigardening (Growing Vegetables in Containers)"
 "Florida Vegetable Gardening Guide"

Watering



Drip




Soaker Hoses



Water by Hand

Beans *Phaseolus spp.*


- Snap
 - Sugar Snap or String Bean
 - Grown for the pod
 - Harvest before the seed swells
- Shelled
 - Lima bean
 - Grown for the young, green seeds inside the pod
 - Harvest before shells turn brown
- Dry
 - Red Kidney
 - Grown for the mature seeds, which dry in the pods on the vine before being shelled
 - Harvest after the pods are dry





Scarlet Runner

Pole Beans

- Bears over a long period of time
- Natural climber










Blue Lake Heirloom
DTH 62

Bush Beans

- Upright 12" to 20"
- Sweet Flavor
- Mature Early
- No Trellis Required



Blue Lake
58 days

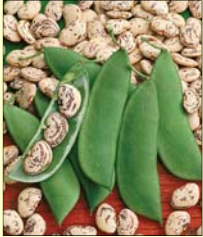



Contender DTH 49
6-8" pods

Lima Bean

Phaseolus lunatus

- Pole Or Bush
- Bush matures slower than bush snap bean
- Tolerates heat and drought
- Harvest
 - Pods are bright green and seeds are full-sized
 - End of pod is spongy




Jackson Wonder
-Heirloom DTH 70-75
-Compact 18-24" tall

Sweet Corn



Zea mays var. rugosa

- Plant in blocks
- Wind pollinated
- Fertilize:
 - at planting
 - 4" tall
 - 8 to 10" tall



Limit Earworm damage

- A drop of mineral oil to corn silk 5 to 7 days after silking
- Or application of Bt *Bacillus thuringiensis* (follow label)

Cucumber *Cucumis sativus*

- Spring and Fall
- Sensitive to cold
- 75 – 80 degrees
- Direct seed
- Trellis
- Slicing and pickling



Marketmore 76

- DTH 63-70
- Trellis
- 8-9" fruit
- Heirloom OP

Diva

- DTH 58
- Harvest small
- All female flowers
- Resistance to powdery and downy mildew



Suyo Long

- DTH 61
- Trellis
- 15" fruit
- "Burples"



Sweet Success

DTH 58 10" fruit
All female flowers

Bush Pickle DTH 45

3 to 4' tall
4" fruit
Perfect for pickling.

Eggplant *Solanum melongena*

Fairy Tale- DTH 50
18-24" high and wide
Slender and 4-inch long fruit
"Great for Containers"

- Injured by frost
- Warm season, including summer
- Heavy feeders
- Harvest fruits when glossy and shiny

Summer Squash *Cucurbita pepo*

- Grows rapidly from seed
- Plants produce in 50 to 65 days.
- Pollination required



Straightneck, Early Prolific
DTH 50 Heirloom (bush-like)



Early White Scallop
DTH 50 Heirloom

Zucchini, Cocozelle
DTH 45-50 Heirloom OP
Bush, suitable for small gardens



Winter Squash *Cucurbita*

- Harvested and eaten in the mature fruit stage.
- Most grow as vines.
- Pollination required



"Bush" Table King (Acorn)

DTH 85 5 to 8 fruits

Compact plant with 4 foot vines that stores well

Waltham (Butternut) DTH 95-100

Vines can reach up to 10'

Average 4 to 5 squash per plant

Open Pollinated



Processing Pumpkins *Cucurbita moschata*



Long Island Cheese DTH 90 -100

C. Moschata an American heirloom

Excellent for processing/very sweet

Fruits are 6 to 10lbs.




Seminole DTH 95

Pest resistant and delicious. Virtually effortless to grow.

Grown by Florida native tribes dating back to the 1500's


Vigorous runners extend 15 to 20'.

Fruits have different forms, ranging in size from 5" to 12" and weigh 6 to 8lbs.




Peppers



Capsicum




- Thin-walled
- Transplant with care
- Staking is recommended
- Irrigate when dry
- Pick when firm and crisp



Pepper varieties Classified in Two Main Types:

<p><i>Capsicum annuum</i> Mild-or-Sweet-Fleshed Fruit</p>  <p>Bullnose: OP DTH 75</p> <ul style="list-style-type: none"> • Grown at Monticello by Thomas Jefferson • Listed in 1863 by Fearing Burr • One of the first medium-large "bell" type • Reliable and Delicious 	<p><i>Capsicum chinense</i> Hot-or-Pungent-Fleshed-Fruit</p>  <p>Datil: OP DTH 100</p> <ul style="list-style-type: none"> • 3-1/2" fruits ripen to a golden-orange • Slightly blunt tip • Both sweet and hot characteristic <ul style="list-style-type: none"> -Heat comparable to habanero types -Flavor complex • Well known throughout St. Augustine
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Harvesting Bells



- When firm and usable size
- Bells full grown average 3-4" long
- When fruits are mature, they break easily from the plant
- Fruits should be cut rather than pulled off
- Colored bells left on to develop full flavor and ripen to red, yellow, orange or brown...should be picked as soon as they change color
- Will feel soggy and wrinkle if left on too long

Harvesting Hot Peppers



- Except for Jalapeno, are allowed to ripen and change colors
 - **Jalapeno**
 - Deep, glossy sheen, firm wall
 - When fruit turn black-green
- **CAUTION** Wear gloves and avoid rubbing eyes when picking hot peppers

Tomatoes: Which varieties to consider?

- **V = Verticillium Wilt Disease**
- **F = Fusarium Wilt Disease**
- **N = Nematodes**
- **A = Alternaria Stem Canker**
- **T = Tobacco Mosaic Virus**
- **S = Grey Leaf Spot**
- **TSWV = Tomato Spotted Wilt Virus**

- Disease resistant varieties which include letters such as V,F,N or TSWV.
- Varieties recommended for our area.
 - Florida Vegetable Gardening Guide
 - *Acclimated to our climate
 - *Disease resistant
 - *Heirloom
 - *Passes the taste test

Indeterminate

- Grows to an indeterminate height
- 6'-20' long sprawling vines
- Keeps growing and producing until the heat or pests get to them
- Stake or cage
- Prune, but not too much



Sun Gold F1 Hybrid
DTH 57

Black Cherry OP
DTH 65



Sweet 100 F1 Hybrid
DTH 68-70

Determinate Variety



Tasti-Lee™ Hybrid
DTH 75

- Bushy plant
- Vines grow 1'-3' long
- Main stem and suckers produce about 3 flower clusters each
- Fruit ripens about the same time over a 4-6 week period
- Need little support, well suited for containers



Arkansas Traveler OP DTH 75-85
Indeterminate

Open-Pollinated Originating before 1900 from the Ozark Mountains of Arkansas. It is known for its ability to produce abundantly, even in hot weather. Tolerant of heat, humidity and crack resistant. Fruit is rose-pink 6 to 8 oz.

HEAT TOLERANT!

Solar Fire VFFF Hybrid DTH 72 days
Determinate

Heat-tolerant variety developed by the University of Florida. Extends the tomato season for gardeners who can plant a fall crop earlier in the summer and still get fruit set despite high temperatures. Medium to large-sized fruit. Resistant: Verticillium wilt, Fusarium wilt (race 1,2, and 3), Gray leaf spot.



Plant Tomatoes Deep

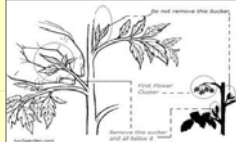


"Florida Vegetable Gardening Guide"

Proper spacing allows for good air circulation and helps prevent diseases!

Remove Suckers on Indeterminate Varieties

- Suckers grow between the leaf and main stem
- Remove all suckers up to the one below the first flower cluster

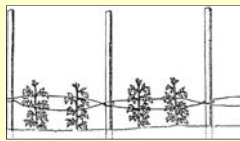


Cages



Staking:

- Drive 6' stake into soil 3-4" from where you place each plant
- Make ties just below the fruit clusters



Stake and Weave

Insect Control IPM

What is Integrated Pest Management?

Integrated Pest Management (IPM) is the use of natural and safe methods to control landscape insects and disease

Lady Beetle: Predaceous on aphids

- Scout
- Handpicking
- Insecticidal soaps and oils
- Natural pesticides
- Attract beneficial's and recognize



Insect Control Overview

- **Insect**
 - Caterpillars
 - Fire ants
 - Thrips
 - Aphids, whiteflies & soft bodied insects
 - Stink bugs
 - Beetles
 - Scale insects
 - Mites
 - Slugs/snails
- **Biorational Pesticide**
 - Pyrethrins, Bt, spinosad, neem
 - Spinosad (spin OH sid)
 - Spinosad
 - Pyrethrins, oils, insecticidal soap, neem, diatomaceous earth
 - Neem, pyrethrins, spinosad
 - Spinosad, pyrethrins, neem
 - Oils
 - Oils, sulfur, insecticidal soap
 - Diatomaceous earth

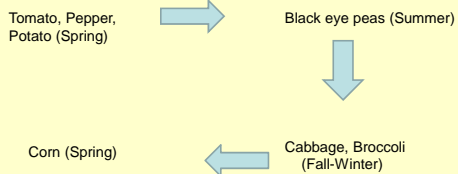
Courtesy of Dr. Eileen Buss, UF Department of Entomology and Nematology

Disease Control

- Choose appropriate planting dates.
- Plant disease resistant varieties.
- Use mulch to prevent soil rot on fruiting vegetables
- Pick off damaged or diseased fruit
- Pick up infected leaves.
- Do not smoke or use tobacco near garden
- Crop rotation.
- Water properly – in the morning, when needed and avoid overhead irrigation.
- Clean up the garden at the end of the season.



Crop Rotation is Important!



"Florida Vegetable Gardening Guide"

Resources

- Organic Vegetable Gardening
<http://duval.ifas.ufl.edu/documents/VH01900.pdf>
- Florida Vegetable Gardening Guide
<http://edis.ifas.ufl.edu/pdf/VH/VH02100.pdf>
- Seed Production and Seed Sources of Organic Vegetables
<http://edis.ifas.ufl.edu/hs227>
- Minigardening (Growing Vegetables in Containers)
<http://dixie.ifas.ufl.edu/pdfs/gardening/container.pdf>

Resources continue

- Extension Soil Testing Laboratory
– <http://edis.ifas.ufl.edu/pdf/SS/SS31200.pdf>
- Solutions for Your Life
– <http://www.solutionsforyourlife.com>
- Crop Rotation to Manage Nutrients
– <http://ag.arizona.edu/pubs/garden/mg/vegetable/fertilizing.html>
- Gardening in Raised Beds
<http://edis.ifas.ufl.edu/ep472>

Definitions

- **OP Open-pollinated:** (non-hybrid) cultivars. Seeds handed down through generations at least 50 years old. High quality fruit, unusual markings, color and shape. Can be grown from saved seed.
- **Hybrid (F1):** Crossbred from 2 or more different plants to provide disease resistance, heat tolerance, improve color and shape. Seed will revert back to one of the parents, not recommended to save seed.
- **Resistant/Resistance:** The variety has a certain amount of resistance when exposed to a disease-causing pathogen such as a fungus, bacteria, or virus
- **Tolerant/Tolerance:** A variety will perform relatively well when exposed to environmental stresses such as cold weather, hot weather, or drought.
