



Florida Vegetable Gardening Guide

Vegetable gardening offers fresh air, sunshine, exercise, enjoyment, mental therapy, nutritious fresh vegetables, and economic savings, as well as many other benefits. Vegetables can be grown year-round in Florida if attention is paid to the appropriate planting dates. While this guide provides recommendations primarily for home gardens, the information may be useful in other situations, such as container, community, and market gardens.

Site

For convenience locate the garden near the house, on a well drained site, close to a source of water, and in a location that receives at least six hours of direct sunlight daily. With proper care, vegetables may also be included in the landscape among ornamental plants. Coastal sites are also suitable. Where possible, rotate the garden from place to place to help control soil diseases and other pests.

Plan

Before planting, draw a garden plan that includes the name, location and planting date(s) of the vegetables you want to grow. Use the Planting Guide (Table 3) to develop your plan. Make a list of supplies and order or purchase seeds early if you intend to grow your own transplants. The Planting Guide lists which vegetable seedlings transplant easily and which do not. Vegetables that are difficult to transplant should be seeded directly into the garden or started in containers first.

Soil Preparation

Gardeners often plant on whatever soil type is available, but it is usually worthwhile to improve the garden plot with additions of organic matter (see below). Spade or plow the plot at least three weeks before planting. At planting time, rework the soil into a smooth, firm surface.

Organic Matter

Most Florida soils benefit from the addition of organic matter, such as animal manure, rotted leaves, compost, commercial soil mixes and cover crops. Thoroughly mix liberal amounts of (un-composted) organics in the soil well in advance of planting, preferably at least a month before seeding. If you do not plan to use inorganic fertilizer, spread 25 - 100 pounds of compost or composted animal manure per 100 square feet. Composted organics may be applied at planting time. However, un-composted manures should be worked into the soil 90-120 days before planting. Due to inconsistent levels of nutrients in compost, accompanying applications of inorganic or organic fertilizer may be beneficial. To avoid plant stunting, organic amendments low in nitrogen (such as composted yard debris) must be accompanied by fertilizer. See EDIS Publication CIR375, Organic Vegetable Gardening, (<http://edis.ifas.ufl.edu/VH019>).

Cover Crops/Green Manure

Green manure is fresh plant material turned into the soil. Planting and plowing in green-manure crops

during the off-season is beneficial. The following cover crops are recommended: cowpea, velvet bean, soybean, and sunflower in summer and cereal rye (FL 401), crimson clover, and Austrian winter pea in winter.

For more information, see EDIS Publication ENY012 Managing Nematodes for the Non-Commercial Vegetable Garden, (<http://edis.ifas.ufl.edu/NG005>).

Adjusting Soil pH

Soil pH is important because it governs how available nutrients are to plants. The best pH range for vegetable gardens on sandy soil is between pH 5.8 and 6.3. If your soil pH is between 5.5 and 7.0, no adjustment in pH needs to be made.

If your soil pH is below 5.5, apply lime at a rate recommended by a reliable soil testing facility, such as the IFAS Extension Soil Testing Laboratory (<http://soilslab.ifas.ufl.edu/>). Two to three pounds of finely ground dolomitic limestone per 100 square feet will usually raise the pH one point. Caution:

Application of lime when it is not needed may cause plant nutritional problems. Lime is best applied two to three months before the garden is to be planted. However, lime may be applied as late as one or two weeks before planting. Make sure the lime is thoroughly mixed into the soil to a depth of 6 - 8 inches and then water the soil to promote the chemical reaction.

If your soil pH is naturally above 7.0 (alkaline), where limestone, marl, or shells are present, there is no practical way of permanently lowering soil pH. Additions of acidic organic matter will help, but only temporarily. Use a fertilizer that contains micronutrients. If the high pH is the result of previous over-liming, application of granular sulfur (1 lb/100 sq ft) will lower soil pH.

Compost

Create your own “garden gold” by converting yard wastes to compost. Composting is easy to do and yields a manure-like, organic fertilizer/soil conditioner, which highly benefits Florida's infertile native soils. See EDIS Publication ENH 1065 - Compost Tips for the Home Gardener (<http://edis.ifas.ufl.edu/EP323>).

- Buy a compost unit or build one from recycled wood pallets, concrete block, sturdy wire, etc. The minimum size should be 3'x3'x3'.
- Make successive, 12-inch-thick layers of plant waste -- such as leaves, lawn clippings, shredded branches, and wood chips. Kitchen scraps may also be used.
- Animal (not pet) manure, finished compost, blood meal or fertilizer can be added to each layer if desired.
- Moisten each layer and keep the pile moist.
- Turn the pile frequently to add oxygen and help the decomposition process.
- Depending on how intensively it is managed, compost should be ready for use in two to twelve months, when plant parts are decomposed.
- Cover the pile to keep rain from leaching nutrients from it.

Fertilizing

Unless very large quantities of organic fertilizer materials are applied, commercial synthetic fertilizer is usually needed for Florida gardens. Gardeners find it convenient to use commonly available fertilizer grades, such as 6-6-6 or 10-10-10. However, some Florida soils contain adequate phosphorus (the middle number), and additional amounts should not be added as phosphorus is a pollutant in surface water, such as lakes and rivers. A soil test can determine whether phosphorus is needed. See EDIS Publication Cir 1248 UF/IFAS Extension Soil Testing Laboratory (<http://edis.ifas.ufl.edu/SS312>).

Broadcast the indicated amount of fertilizer over the entire garden plot before planting. Band the other portion at planting time along the plant rows. The fertilizer should be applied 2 - 3 inches to the side of, and 1 - 2 inches below, the seed level or plant row.

In addition, during the growing season, it may be necessary to apply fertilizer two or three more times at half the banded rate shown in the table. Apply the fertilizer just beyond the outside leaves.

Irrigation and Drainage

Vegetables cannot tolerate standing water from excessive rainfall or irrigation. Yet, at the same time, vegetables need soil moisture to grow and produce. Frequency of irrigation depends upon the age of the crop and your soil type. Young plants need frequent, but light irrigation; maturing crops need more water, but less often. Sandy soils demand more frequent irrigation than clay, muck or amended soils. Conserve water by using mulch, organic matter, and techniques such as drip irrigation. Make a slight depression at the base of plants to hold water until absorbed by the soil.

Pest Management

'Pests' in the vegetable garden include weeds, insects, mites, diseases, nematodes – and even animals, like raccoons and birds, that might reduce yields.

A gardener has many options for reducing pest problems. Pesticides can be harmful to people, pets, beneficial insects, and the natural environment and should be used only after all other pest-management steps have been taken.

No-Pesticide Approaches

- Follow the recommended planting date(s) listed for each vegetable. Vegetables planted "out of season" are very susceptible to many pests. Plant as early in the spring (or as late in the fall, depending on the crop) as is safely possible. Use protective covers for cold-sensitive plants.
- Rotate vegetables so that the same vegetable (or members of the same vegetable family) are not planted repeatedly in the same areas. The plant family for each vegetable is listed in Table 3.
- Till or hand-turn the soil well in advance of planting. Insects, such as mole crickets and wireworms, for which there is no good control, are commonly more abundant in gardens that have recently been in grass. The garden should be well tilled and free of weeds, grass, and woody material at least 30 days before planting.
- Control weeds in and around the garden because they can be a source of insects and diseases. Weed control is best accomplished by mulching and hand-pulling or hoeing small weeds. Recommended mulches are straw, fallen leaves, and unfinished compost. Wood mulches and un-decomposed sawdust should not be used. Weeds around the outside of the garden and between rows can be reduced by putting down several layers of newspaper and then covering them with leaves.
- Choose adapted varieties with resistance or tolerance to nematodes and the diseases common in your area.
- Purchased transplants should be free of insects and disease symptoms (such as leaf spots or blights). Avoid transplants that are already flowering. Consider growing your own from seed.
- Plants can be protected from cutworms by placing a "collar" around the plant. The collar can be made from a bottomless plastic cup or a waxed cardboard carton. The collar should extend a few inches above and at least an inch below the surface of the ground.
- Lightweight row covers (also called floating row covers) can be used as a barrier to insects. Put in place at planting, with lots of excess material to leave room for the growing plant. Remove

the cover when plants that need bees for pollination begin to flower (i.e., vegetables listed in Table 3 as members of the Cucurbitaceae Family).

- Keep plants vigorously growing and in a state of good health by supplying appropriate amounts of water and fertilizer. A healthy plant is often able to survive insect attack. Too much nitrogen, however, can make plants more inviting to aphids and whiteflies.
- Monitor or scout the garden twice weekly for pest problems. This includes inspecting the plants from the bud to the soil, including both upper and lower leaf surfaces. Record notes on pest problems and the performance of different varieties. Include photographs of insects, diseases and beneficial insects that you find.
- Learn to identify beneficial insects (praying mantis, spiders, big-eyed bugs/assassin bugs, lady beetles, and all wasps). Some of these insects can be purchased, but keep in mind that many beneficial insects exist naturally in Florida, and purchased beneficials will leave if there are no insects for them to eat.
- Plant flowers in the vegetable garden. They provide nectar and pollen that attract beneficial insects.
- Large insects can be removed by hand and destroyed. Place them in a container of soapy water, where they will sink and drown.
- Watch for early disease symptoms. Remove any diseased leaves or plants to slow spread.
- Most plants that produce fruits, pods, or ears can stand a 10 – 20 percent loss of leaves without loss of potential yields. Do not panic and start spraying at the first sign of leaf feeding.
- Harvest crops such as tomatoes, peppers, squash, and beans as soon as they are ripe. Allowing over-ripe fruits to remain on the plants often invites additional insect problems.
- As soon as a plant or crop is no longer productive, remove it from the garden and compost or dispose of it.
- Reduce nematode populations temporarily by "soil solarization" – a technique which uses the sun's energy to heat the soil and kill soil-borne pests. To "solarize" soil, first remove vegetation, then break up and wet the soil to activate the nematodes. Cover the soil with sturdy, clear-plastic film. Weight down the edges with additional soil to keep the plastic in place. Soil solarization should be done during the warmest six weeks of summer. High temperatures (above 130°F) must be maintained for best results.
- Add organic matter to the soil to help reduce nematode populations - microscopic worms that attack vegetable roots and reduce growth and yield. Organic matter improves the capacity of the soil to hold water and nutrients and, in turn, improves plant vigor and resistance to pests.
- See also EDIS Publication CIR375, Organic Vegetable Gardening, (<http://edis.ifas.ufl.edu/VH019>).

Using Pesticides Wisely

If you choose to use pesticides, be sure and follow pesticide label directions carefully.

- Learn to properly identify garden pests and use chemicals only when a serious pest problem exists. Your county extension office can provide information about insect identification. Organic gardeners can use certain products (B.t., for example).
- Not every off-the-shelf pesticide can be used on every vegetable or on vegetables at all. Make sure the vegetable and the pest is on the label before purchasing the product.
- Follow label directions for measuring and mixing and pay attention to any 'pre-harvest interval' - the time that must elapse between application of the pesticide and harvest. For example, broccoli sprayed with carbaryl (Sevin) should not be harvested for two weeks.
- Spray the plant thoroughly, covering both the upper and lower leaf surfaces.

- Do not apply pesticides on windy days.
- Follow all safety precautions on the label and keep others and pets out of the area until sprays have dried.
- Apply insecticides late in the afternoon or in the early evening when bees and other pollinators are less active. Malathion, Carbaryl and pyrethroids are especially harmful to bees.
- To reduce spray burn, make sure the plants are not under moisture stress. Water if necessary and let leaves dry before spraying. Avoid using soaps and oils when the weather is very hot.
- Control slugs with products containing iron phosphate. Products with metaldehyde as the active ingredient are extremely toxic to animals, such as dogs and wildlife, which may be attracted to the bait.
- Diseases - Plant fungicide-treated seed. Dust untreated seed with a captan fungicide. Many common diseases can be controlled with sprays of chlorothalonil, maneb, or mancozeb fungicide. Powdery mildews can be controlled with triadimefon, myclobutanil, sulfur, or horticultural oils. Rusts can be controlled with sulfur, propiconazole, or tebuconazole. Sprays are generally more effective than dusts. Begin control efforts early.

Planting Guide

Crop	Planting Dates in Florida (outdoors) ¹			Plant Family ²	Transplant -ability ³	Pounds yield per 100'	Days to Harvest ⁴	Seeds/plants Per 100'	Spacing (inches)		Seed depth (inches)
	North	Central	South						Rows	Plants	
Beans, bush	Mar-Apr Aug-Sept	Feb-Apr Sept	Sept-Apr	Fabaceae	III	45	50-60	1 lb.	18-30	2-3	1-2
Beans, pole	Mar-Apr Aug-Sept	Feb-Apr Aug-Sept	Aug-Apr	Fabaceae	III	80	55-70	½ lb.	40-48	3-6	1-2
Beans, lima	Mar-Aug	Feb-Apr Sept	Aug-Apr	Fabaceae	III	50	65-75	2 lb.	24-36	3-4	1-2
Beets	Sept-Mar	Oct-Mar	Oct-Feb	Chenopodiaceae	I	75	50-65	1 oz.	14-24	3-5	½ - 1
Broccoli	Aug-Feb	Aug-Jan	Sept-Jan	Brassicaceae	I	50	75-90	100 pits 1/8 oz.	30-36	12-18	½ - 1
Cabbage	Sept-Feb	Sept-Jan	Sept-Jan	Brassicaceae	I	125	90-110 (70-90)	(1/8 oz) 100 pits	24-36	12-24	½ - 1
Cantaloupes	Mar-Apr	Feb-Apr	Aug-Sept Feb-Mar	Cucurbitaccae	III	150	75-90 (65-75)	½ oz.	60-72	24-36	1-2
Carrots	Sept-Mar	Oct-Mar	Oct-Feb	Apiaceae	II	100	65-80	1/8 oz.	16-24	1-3	½

Cauliflower	Jan-Feb Aug-Oct	Oct-Jan	Oct-Jan	Brassicaceae	I	80	75-90 (55-70)	55 plts (1/8 oz)	24-30	18-24	½ - 1
Celery	Jan-Mar	Aug-Feb	Oct-Jan	Apiaceae	II	150	115-125 (80-105)	150 plts (1/8 oz)	24-36	6-10	¼ - ½
Chinese cabbage	Oct-Feb	Oct-Jan	Nov-Jan	Brassicaceae	I	100	70-90 (60-70)	125 plts (1/8 oz)	24-36	12-24	¼ - ¾
Collards	Feb-Apr Aug-Nov	Aug-Mar	Aug-Feb	Brassicaceae	I	150	70-80	100 plts (1/8 oz)	24-30	10-18	½ - 1
Corn, sweet	Mar-Apr Aug	Feb-Mar Aug-Sept	Aug-Mar	Poaceae	III	115	60-95	2 oz.	24-36	12-18	1-2
Cucumbers	Feb-Apr Aug-Sept	Feb-Mar Sept	Sept-Mar	Cucurbitaceae	III	100	50-65 (40-50)	½ oz.	36-60	12-24	1-2
Eggplant	Feb-July	Jan-Mar Aug-Sept	Dec-Feb Aug-Oct	Solanaceae	I	200	90-110 (75-90)	50 plts 1 pkt	36-42	24-36	½
Endive/Escarole	Feb-Mar Sept	Jan-Feb Sept	Sept-Jan	Asteraceae	I	75	80-95	100 plts	18-24	8-12	¼

Kale	Sept-Feb	Sept-Jan	Sept-Jan	-	-	-	-	100 plts (1/8 oz)	24-30	12-18	½ - 1
Kohlrabi	Sept-Mar	Oct-Mar	Oct-Feb	Brassicaceae	I	100	70-80 (50-55)	1/8 oz.	24-30	3-5	½ - 1
Lettuce: Crisp, Butter-head, Leaf & Romaine	Feb-Mar Sept-Oct	Sept-Mar	Sept-Jan	Asteraceae	I	75	50-90	100 plts	12-24	8-12	½
Mustard	Sept-May	Sept-Mar	Sept-Mar	Brassicaceae	II	100	40-60	¼ oz.	14-24	1-6	½ - 1
Okra	Mar-July	Mar-Aug	Aug-Sept	Malvaceae	III	70	50-75	1 oz.	24-40	6-12	1-2
Onions, Bulbing	Sept-Dec	Sept-Dec	Sept-Nov	Liliaceae	III	100	120-160 (110-120)	300 plts/sets, 1 oz seed	12-24	4-6	½ - 1
Onions, Bunching (Green onions)	Aug-Mar	Aug-Mar	Sept-Mar	Liliaceae	III	100	50-75 (30-40)	800 plts/sets 1 - 1½ oz seed	12-24	1-2	2-3
Onions, (Shallots)	-	-	-	Liliaceae	III	100	(30-40)	-	18-24	6-8	½ - ¾
Peas, English	Jan-Mar	Sept-Mar	Sept-Feb	Fabaceae	III	40	50-70	1 lb.	24-36	2-3	1-2
Peas, southern	Mar-Aug	Mar-Sept	Aug-Apr	Fabaceae	III	80	60-90	¼ oz.	30-36	2-3	1-2

Peppers	Feb-Apr July-Aug	Jan-Mar Aug-Sept	Aug-Mar	Solanaceae	I	50	80-100 (60-80)	100 pints 1 pkt	20-36	12-24	½
Potatoes	Jan-Mar	Jan-Feb	Sept-Jan	Solanaceae	II	150	85-110	15 lbs.	36-42	8-12	3-4
Potatoes, sweet	Mar-June	Feb-June	Feb-June	Convolvulaceae	I	300	(120-140)	100 pints	48-54	12-14	---
Pumpkin	Mar-Apr Aug	Feb-Mar Aug	Jan-Feb Aug-Sept	Cucurbitaceae	III	300	90-120 (80-110)	1 oz.	60-84	36-60	1-2
Radish	Sept-Mar	Sept-Mar	Oct-Mar	Brassicaceae	III	40	20-30	1 oz.	12-18	1-2	¾
Spinach	Oct-Nov	Oct-Nov	Oct-Jan	Chenopodiaceae	II	40	45-60	1 oz.	14-18	3-5	¾
Squash, Summer	Mar-Apr Aug-Sept	Feb-Mar Aug-Sept	Jan-Mar Sept-Oct	Cucurbitaceae	III	150	80-110 (70-90)	1½ oz.	36-48	24-36	1-2
Squash, Winter	Mar Aug	Feb-Mar Aug	Jan-Feb Sept	Cucurbitaceae	III	300	40-55 (35-40) 80-110 (70-90)	1 oz.	60-90	36-48	1-2
Strawberry	Oct-Nov	Oct-Nov	Oct-Nov	Rosaceae	I	50	(90-110)	100 pints	36-40	10-14	---
Tomatoes, Stake	Feb-Apr Aug	Jan-Mar Sept	Aug-Mar	Solanaceae	I	200	90-110 (75-90)	70 pints 1 pkt	36-48	18-24	½
Tomatoes, Ground	-	-	-	Solanaceae	I	200	90-110 (75-90)	35 pints 1 pkt	40-60	36-40	½
Tomatoes, Container	-	-	-	Solanaceae	I	200	90-110 (75-90)				
Turnips	Jan-Apr Aug-Oct	Jan-Mar Sept-Nov	Oct-Feb	Brassicaceae	III	150	40-60	¼ oz.	12-20	4-6	¼-1
Watermelon, Large	Mar-Apr July-Aug	Jan-Mar Aug	Jan-Mar Aug-Sept	Cucurbitaceae	III	400	85-95 (80-90)	1/8 oz.	84-108	48-60	1-2
Watermelon, Small	-	-	-	Cucurbitaceae	III	400	85-95 (80-90)	1/8 oz.	48-60	15-30	"
Watermelon, Seedless	-	-	-	Cucurbitaceae	III	400	85-95 (80-90)	70 pints	48-60	15-30	"

¹ North: north of State Rd 40; Central: between State Rds 40 and 70; South: south of State Rd 70.

Footnotes

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