

Table 1. Planting Guide for Florida Vegetables.

Crop	Planting Dates in Florida (outdoors) ¹		
	North	Central	South
Arugula	Sept–Mar	Sept–Mar	Oct–Mar
Beans, bush	Mar–Apr Aug–Sept	Feb–Apr Aug–Sept	Sept–Apr
Beans, pole	Mar–Apr Aug–Sept	Feb–Apr Aug–Sept	Sept–Apr
Beans, lima	Mar–Apr Aug	Feb–Mar Aug–Sept	Sept–Apr
Beets	Aug–Feb	Sept–Feb	Oct–Jan
Broccoli	Aug–Feb	Sept–Feb	Oct–Jan
Brussels Sprouts	Aug–Feb	Sept–Feb	Oct–Jan
Cabbage	Aug–Feb	Sept–Feb	Sept–Jan
Cantaloupes	Feb–Apr	Jan–Mar	Dec–Mar
Carrots	Aug–Mar	Aug–Mar	Sept–Mar
Cauliflower	Aug–Feb	Sept–Feb	Sept–Jan
Celery	Aug–Feb	Sept–Mar	Oct–Mar
Chinese cabbage	Aug–Feb	Sept–Apr	Sept–Apr
Collards	Aug–Feb	Sept–Feb	Sept–Jan
Corn, sweet	Feb–Apr	Jan–Apr	Oct–Mar
Cucumbers	Feb–Apr July–Aug	Jan–Mar Sept	Sep–Feb
Eggplant	Feb–Mar Aug	Jan–Feb Aug–Sept	Aug–Feb
Endive/ Escarole	Jan–Feb Aug–Oct	Aug–Feb	Sept–Mar
Kale	Aug–Feb	Sept–Feb	Sept–Jan
Kohlrabi	Sept–Mar	Oct–Mar	Oct–Feb
Lettuce	Jan–Feb Sept–Oct	Sept–Feb	Sept–Feb

Crop	Planting Dates in Florida (outdoors) ¹		
	North	Central	South
Mustard	Aug–Feb	Sept–Feb	Sept–Jan
Okra	Mar–June	Feb–Aug	Jan–Mar Aug–Oct
Onions, Bulbing	Mid-Sept – Mid-Nov	Oct	Oct
Onions, Bunching (Green and Shallots)	Aug–Mar	Aug–Mar	Sept–Mar
Peas, Snow or English	Jan–Mar	Nov–Feb	Nov–Feb
Peas, southern	Mar–July	Feb–Aug	Sept–Apr
Peppers	Feb–Mar July– Aug	Jan–Mar Aug–Sept	Aug–Feb
Potatoes, Irish	Jan–Feb	Nov–Feb	Oct–Jan
Potatoes, sweet	Mar–Jun	Feb–Jun	Dec–Sept
Pumpkin	Early July	Mid July	Early Aug
Radish	Sept– Mar	Sept–Mar	Oct–Mar
Spinach	Sept–Mar	Sept–Mar	Oct–Feb
Squash, Summer	Feb–Apr Aug–Sept	Jan–Apr Aug–Sept	Aug–Mar
Squash, Winter	Feb–Apr Aug–Sept	Jan–Apr Aug–Sept	Aug–Mar
Strawberry	Sept 15– Oct 15	Sept 25– Oct 25	Oct 1– Dec 1
Swiss Chard	Sept–May	Sept–May	Sept–Mar
Tomatoes (supported)	Feb–Apr July–Aug	Jan–Feb Aug–Sept	Aug–Feb
Turnips	Aug–Feb	Sept–Feb	Sept–Jan
Watermelon	Feb–Apr	Jan–Mar	Dec–Mar

A Simple Organic Fertilizer Plan for Vegetables in 4' x 8' (32 square feet) Raised Beds Adapted to Florida

References:

- A. Organic Vegetable Gardening in Florida HS1215 by University of Florida Extension Services
- B. Florida Vegetable Gardening Guide SP 103 by University of Florida Extension Services

Target Nutrient Applications per Crop Cycle - Basis: University of Florida typical seasonal commercial vegetable grower nutrient application rates in Florida soils stated in Ref A. (page 6): Per crop cycle:

<u>Reference per 100 square feet</u>	<u>Calculated per 32 square feet (4' x 8' raised beds)</u>
0.46 lbs. nitrogen (N)	0.15 lbs. N
0.34 lbs. phosphorus (P)	0.11 lbs. P
0.4 lbs. potassium (K)	0.13 lbs. K

Fertilizer Plan:

A starter fertilizer is applied at time of planting transplants, or soon after emergence of seedlings, and does not count toward the total nutrient applications below.

Liquid organic fertilizer is applied monthly to supplement Nitrogen – example fish emulsion 5-1-1.

A complete organic fertilizer is applied to supply the long term nutrients and condition the soil – example Espoma Garden Tone 3-4-4 or similar. Using phosphorus (P) as the limiting factor to avoid over application of P, we use the middle number for P (4%) to calculate the amount of Espoma to apply. Since we only need 0.11 lbs P total, we need 2.75 pounds of Espoma for a crop cycle ($0.11 \text{ lbs.} / 4\% = 2.75$). This will result in 0.08 lbs. total N, or about half the desired total N, but this will be compensated by the monthly application of high nitrogen fish emulsion. Total potassium (K) supplied by the Espoma will be 0.11 lbs, a slight shortfall from the desired 0.13 lbs. but the small amount of K from monthly fish emulsion should compensate sufficiently.

Total Complete Organic Fertilizer Application per Crop Cycle is incrementally applied as follows:

First Application (broadcast 1 week before planting)	20% of Total x 2.75 = 0.55 lbs. (9 oz.)
Second Application (side dressing)	30% of Total x 2.75 = 0.83 lbs. (13 oz.)
Third Application (side dressing)	30% of Total x 2.75 = 0.83 lbs. (13 oz.)
Fourth Application (side dressing)	20% of Total x 2.75 = 0.55 lbs. (9 oz.)

The time between applications of the complete organic fertilizer depends on the length of the crop cycle, but in general terms could be every 3 to 4 weeks. For example, a 75 day crop maturity would result in about 25 days (3.5 weeks) between applications after the first.

Heavy rainfall can wash away fertilizer, so additional applications may be needed to replace those washed away by heavy rains, especially immediately following an application. The same holds true for the monthly fish emulsion application.



All Natural Plant Food with Bio-tone Microbes

- Complex blend of 100% natural & organic ingredients to provide complete & balanced feeding.
- Enhanced with Bio-tone beneficial microbes.
- Long-lasting, slow release. Won't burn or leach away.
- Originally developed for professional gardeners.

Garden-tone Plant Food

FACT SHEET

Garden-tone® 3-4-4

GUARANTEED ANALYSIS

Total Nitrogen	3.0%
0.2% Ammoniacal Nitrogen	
0.6% Water Soluble Nitrogen	
2.2% Water Insoluble Nitrogen	
Available Phosphate (P ₂ O ₅)	4.0%
Soluble Potash (K ₂ O)	4.0%
Calcium (Ca)	5.0%
Magnesium (Mg)	1.0%
0.7% Water Soluble Magnesium	
Sulfur (S)	2.0%

ALSO CONTAINS NON PLANT FOOD INGREDIENTS:

Contains 624 colony forming units (CFU's) per gram of the following species:

Bacillus licheniformis	208 CFU's per gram
Bacillus megaterium	208 CFU's per gram
Bacillus pumilus	208 CFU's per gram

Derived from: Hydrolyzed Feather Meal, Pasteurized Poultry Manure, Bone Meal, Alfalfa Meal, Greensand, Humates, Sulfate of Potash, and Sulfate of Potash Magnesia.

*Contains 2.2% Slow Release Nitrogen.

The Espoma Company • 6 Espoma Road, Millville, NJ 08332

Directions

One pound equals approx. 3 cups

Soil Preparation

When preparing gardens for vegetables or tomatoes apply 3.5 lbs. of Garden-tone per 50 square feet and work into the top 4 to 5 inches of soil. When possible, organic matter such as compost, humus, or peat moss should be mixed into the top 4 to 5 inches of soil.

Feeding Vegetables and Tomatoes

- Feed seedlings and transplants one week to 10 days after planting.
- Single plants: Sprinkle 1/3 cup per plant.
- Rows: Sprinkle 1-1/3 cup each side per 5 ft. of row or 10 lbs. each side per 100 ft. of row.

Methods and Frequency

- Apply in a single band around single plants.
- Feed alongside of row. Keep 3 inches from stem.
- Feed monthly throughout the growing season.
- Always water thoroughly after feeding.

For more information about our products and services please contact our customer support department at:

The Espoma Company • 6 Espoma Road, Millville, NJ 08332 • Telephone: 1-888-ESPOMA1 (888-377-6621) • Fax: 856-825-1385 • www.espoma.com

Rev 01/14



All Natural Plant Food with Bio-tone Microbes

- Complex blend of 100% natural & organic ingredients to provide complete & balanced feeding.
- Enhanced with Bio-tone beneficial microbes.
- Long-lasting, slow release. Won't burn or leach away.
- University tested formula produces consistently plump, juicy tomatoes.

Tomato-tone Plant Food

FACT SHEET

Tomato-tone® 3-4-6

GUARANTEED ANALYSIS

Total Nitrogen	3.0%
0.2% Ammoniacal Nitrogen	
0.7% Water Soluble Nitrogen	
2.1% Water Insoluble Nitrogen	
Available Phosphate (P ₂ O ₅)	4.0%
Soluble Potash (K ₂ O)	6.0%
Calcium (Ca)	8.0%
Sulfur (S)	3.0%

Derived from: Hydrolyzed Feather Meal, Pasteurized Poultry Manure, Bone Meal, Alfalfa Meal, Greensand, Humates, Sulfate of Potash, and Gypsum.

*Contains 2.1% Slow Release Nitrogen.

ALSO CONTAINS NON PLANT FOOD INGREDIENTS:

Contains 624 colony forming units (CFU's) per gram of the following species:

Bacillus licheniformis	208 CFU's per gram
Bacillus megaterium	208 CFU's per gram
Bacillus pumilus	208 CFU's per gram

The Espoma Company • 6 Espoma Road, Millville, NJ 08332

Directions

One pound equals approx. 3 cups

Soil Preparation

- When preparing tomato bed apply 3 lbs. of Tomato-tone per 50 sq. ft. and work into the top 4 to 6 inches of soil.
- For single plants mix 3 tablespoons of Tomato-tone into the soil when planting.
- For potted plants mix one part Tomato-tone to 30 parts soil mixture (1.25 cups of Tomato-tone for every 8 qt. of soil).

Feeding

Apply Tomato-tone after plants are well established (10 - 14 days) and then twice a month during the growing season (May through August).

- Rows: 1 cup each side per 5 feet of row.
- Single Plants: 3 tablespoons per plant.
- Potted Plants: Apply 1.5 teaspoons per 4" of pot diameter (1.5 tablespoon per 12 inch pot diameter).

Application Methods

- Apply Tomato-tone in a narrow band around single plants or along each side of a row. Keep Tomato-tone at least 3" from stem.
- Potted Plants: Apply evenly over soil and gently mix in.
- Water thoroughly after feeding.

Tomato Growing Tips

- Select only disease resistant varieties.
- Plant tomatoes in full sun after any danger of frost.
- Insufficient watering can contribute to blossom end rot and cracking. Make sure tomato plants are regularly watered.
- Stake upright plants for best fruit.

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Rev 01/14

Alaska[®] FISH FERTILIZER 5-1-1

- **paradise fertilizer** • **Won't burn**
- **Deodorized** • **Economical**
- **works indoor and outdoor plants**

MIX WELL BEFORE USE: Ingredients may separate during storage. Avoid excess heat in storage. Apply only when diluted with water in accordance with directions. Do not store mixed solution.

APPLICATION FREQUENCY: Apply every three weeks during the growing season at the recommended rates.

ANNUALS AND BEDDING PLANTS (Alyssum, Marigolds, Pansies, Petunias, Zinnias, etc.): Mix 2 Tablespoons per gallon of water for every 25 sq. ft. of soil (1 quart per 32 gallons of water for 800 sq. ft. of soil).

PERENNIALS (Begonias, Columbines, Daisies, Delphinium, Lavender, Peony, Phlox, etc.): Mix 3 Tablespoons per gallon of water for every 25 sq. ft. of soil (3 pints per 32 gallons of water for 800 sq. ft.).

BULBS (Begonias, Crocus, Daffodils, Dahlias, Freesia, Gladiolus, Lilies, Tulips, etc.): Mix 2 Tablespoons per gallon of water for every 25 sq. ft. of soil to area around plants (1 quart per 32 gallons of water for 800 sq. ft.).

ROSES: Mix 3 Tablespoons per gallon of water for every 25 sq. ft. of soil (3 pints per 32 gallons of water for 800 sq. ft.).

SHRUBS (Rhododendrons, Azaleas, Hydrangeas, Heathers, Camellias, etc.): Mix 3 Tablespoons per gallon of water for every 2 feet of plant height.

VINES (Clematis, Gardenias, Grapes, Jasmine, Wisteria, etc.): Mix 3 Tablespoons per gallon of water for every 25 sq. ft. of soil (3 pints per 32 gallons of water for 800 sq. ft.).

VEGETABLES AND HERBS: Mix 2 Tablespoons per gallon of water for every 25 sq. ft. of soil (1 quart per 32 gallons of water for 800 sq. ft.).

ROOT VEGETABLES: Mix 1 Tablespoon per gallon of water for every 25 sq. ft. of soil (1 pint per 32 gallons of water for 800 sq. ft.).

BERRIES (Blackberries, Gooseberries, Marionberries, Raspberries, Strawberries, etc.): Mix 3 Tablespoons per gallon of water for every 25 sq. ft. of soil (3 pints per 32 gallons of water for 800 sq. ft.).

CONTAINER OUTDOOR PLANTS (Azaleas, Camellias, Fuchsias, Geraniums, Verbena, etc.): Mix 1 Tablespoon per gallon of water for every cubic foot of soil.

INDOOR PLANTS, LARGE (Ferns, Palms, Pothos, Rubber Plants, etc.): During the growing season, mix 2 teaspoons per quart of water. Water plants as usual. Let plants rest in winter.

INDOOR PLANTS, FLOWERING (African Violet, Cyclamen, Poinsettia, Shrimp Plant, etc.): During the growing season, mix 1 teaspoon per quart of water. Water plants as usual. Let plants rest in winter.

TREES: Mix 4 Tablespoons per gallon of water for every 25 sq. ft. of soil around the plants (2 quarts per 32 gallons of water for 800 sq. ft.).

LAWNS: Apply 1 Quart for every 300 square feet of lawn, diluted through application using a suitable hose-end sprayer.

GUARANTEED ANALYSIS:

Total Nitrogen (N).....	5.0%
0.50% Ammoniacal Nitrogen	
3.75% Other Water Soluble Nitrogen	
0.75% Water Insoluble Nitrogen*	
Available Phosphate (P ₂ O ₅).....	1.0%
Soluble Potash (K ₂ O).....	1.0%

Primary nutrients from Seagoing Fish Emulsion.

*0.75% slowly available nitrogen from seagoing fish emulsion.

Information regarding the contents and levels of metals in this product is available on the internet at <http://www.aapfc.org/metals.htm>

CAUTION: May be harmful if swallowed. Avoid contact with eyes, skin, open cuts or sores. Keep out of reach of children. Wash hands after use. For general clean up, use pine oil based cleaner.

NOTICE: Buyer assumes all responsibility for safety and use not in accordance with directions.

Store in a cool, dry place. Keep out of reach of children and pets.

Alaska is a registered trademark of Central Garden & Pet.

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**List of vegetables based on whether they are light, medium or heavy feeders
From University of Georgia Growing Vegetables Organically, Table 5.**

Light feeders	Southern peas		
Medium feeders	Beans, all Beets Broccoli Cantaloupes Carrot Cauliflower Corn	Cucumbers Eggplant English peas Greens Herbs Okra Peppers	Pumpkin Radish Squash Sweet potato Swiss chard Watermelon
Heavy feeders	Cabbage Lettuce	Onions Potatoes	Tomatoes

Mailing Address (please print)

Name _____ Date _____

Address _____

_____, FL Zip _____ Phone _____

Email* _____

*Please provide an email address to receive your results faster.

Signature _____

(signature only required for UF personnel for approval of chartfield charges)

Note:

- Consult an expert to determine if plant growth problems require soil testing.
- These samples will not be tested for nematodes, disease organisms, or chemicals other than those listed on this form.
- Commercial producers should use the Producers Soil Test Form SL135 (<http://edis.ifas.ufl.edu/ss186>).

**UF/IFAS Analytical Services Laboratories
Extension Soil Testing Laboratory**

2390 Mowry Road/PO Box 110740/Wallace Building 631

Gainesville, FL 32611-0740

Email: soilslab@ifas.ufl.edu Website: <http://soilslab.ifas.ufl.edu>

LANDSCAPE & VEGETABLE GARDEN TEST FORM

Note: This lab only tests samples from Florida.

Direct any questions about this test or the interpretation of the results to your county UF/IFAS Extension agent.

Step 1. Collect samples from your landscape or garden. See the instructions at the bottom of this page.

Step 2. Choose EITHER Test A or B, but not both, for all samples.

For Micronutrients (Cu, Mn, Zn): add \$5 per sample.

Test A. The pH and Lime Requirement Test provides the following information:

- Soil pH
- Lime Requirement

Test A is appropriate if you do the following:

1. Use only complete fertilizers (such as 16-4-8)
2. Follow the generic fertilizer recommendations found in UF/IFAS landscape and vegetable garden publications
3. Need only the soil pH test

Test B. The Soil Fertility Test provides these six analyses:

- Soil pH
- Lime Requirement
- P
- K
- Ca
- Mg

Test B will enable you to tailor your use of single-element fertilizers based on existing soil fertility status. However, if you use a complete fertilizer, such as 10-10-10, the extra tests for extractable P, K, Mg, and Ca are of little value.

Fill in all requested information, using one line per sample. Use additional forms for more than 5 samples.

Remember: Choose either test A or B for each sample.

Additional Test

Lab Use Only	Sample ID	County	Crop Code(s) (See back of form)	Estimated Acreage	Cost of Test		Micro-nutrients
					Test A (Circle appropriate amount.)	Test B	
					\$3	\$7	\$5
					\$3	\$7	\$5
					\$3	\$7	\$5
					\$3	\$7	\$5
					\$3	\$7	\$5

Check Money Order Cash Total _____

Please enclose payment and this sheet in the same package as sample(s).

Please make checks and money orders payable to UNIVERSITY OF FLORIDA.

Samples will not be processed without payment. Do not send cash through the mail.

How to Sample Your Lawn or Garden

Obtain a small amount of soil from 10 to 15 different spots in the area you wish to test (a minimum of 1/2 pint). When you sample a lawn, take the soil from the upper 2-4 inches. When sampling a vegetable garden or landscape plants, take soil from the upper 6 inches. If soil is wet, spread soil on clean paper or other suitable material to air dry.



Figure 1. Use a soil probe for faster soil sampling.



Figure 2. If you don't have a soil probe, use a hand trowel, shovel, or other garden tool. Trim out soil of uniform thickness to the recommended depth.



Figure 3. Place 10-15 soil cores into a plastic bucket; mix, dry, and transfer to a bag.

RELATIONSHIP OF SOIL TESTING TO LAWN MAINTENANCE OR VEGETABLE GARDENING

Single-Element Fertilizers and Complete Fertilizers

People have different opinions about lawn or landscape care or garden productivity because they have different skills, training, and experiences. This diversity shows in the management levels observed in any neighborhood. However, most people are able to grow beautiful lawns and productive gardens by applying the UF/IFAS-recommended amount of a complete fertilizer (a fertilizer that contains nitrogen, phosphorus, and potassium). This method of fertilization saves time and effort for most homeowners compared to using single-element fertilizers. If you use complete fertilizers, testing only for soil pH and lime requirement is your best testing plan (Test A). A soil fertility test is worth the extra fee only if you have access to single-element fertilizers and you wish to use more carefully estimated amounts of P and K in your fertilization program (Test B).

As with any chemical, proper handling and application of recommended fertilizer amounts will minimize any potential hazard to you or the environment.

Lime Requirement

Most garden plants respond unfavorably when soil pH is too high or too low. You should test your soil pH every 2–3 years to minimize plant growth problems relating to soil pH. The pH of your soil and a lime requirement test are the only accurate means to determine if your lawn, landscape, or garden will benefit from the addition of lime.

Soil Testing as a Diagnostic Tool

The main purpose behind soil testing procedures is to establish lime and fertilizer needs of a crop before planting. Most research efforts have been directed to that goal. When production problems occur, many people feel that a soil test is the best diagnostic tool. However, soil testing is useful in diagnosing crop production and growth problems only under special circumstances. Make sure to do the following:

1. Consult an expert to help you interpret your soil test results.
2. Ask the expert about other possible causes. In many cases, additional tests are also needed, such as plant analysis, nematode analysis, etc.
3. Maintain complete and orderly records of all management practices.

TAKING A REPRESENTATIVE SOIL SAMPLE

Tools

1. Digging implement, such as a soil probe, a spade, or a regular garden hand trowel (Figures 1 and 2)
2. Plastic bucket
3. Clean shopping bag or some newspaper
4. Soil sample bags for each of your soil samples (one per sample), and a shipping box to send samples to the UF/IFAS Extension Soil Testing Laboratory. These supplies are available for free at your county UF/IFAS Extension office. This office is also a good source of many UF/IFAS publications to help you with lawn care and home gardening.

Sampling

1. Use your digging implement to obtain a small amount of soil from 10–15 spots over the area you wish to test. When you sample a lawn, take soil from the upper 2–4 inches (Figures 1 and 2). Sample a vegetable garden or landscape plants by taking soil from the upper 6–8 inches.
2. As you take each small sample, place it into the plastic bucket (Figure 3). Space your sampling sites throughout the area. Do not include soil from any problem spots in the regular samples. Submit soil samples from problem spots as separate samples.
3. After sampling, mix the soil in the bucket with your hand so that all the soil is well blended.

4. Take about 1 pint of the blended soil and place it on the shopping bag or newspaper to air-dry. Return any soil remaining in the bucket to the lawn or vegetable garden.
5. While the soil is drying, fill out the requested information in the soil test package, both on the form and on the sample bag. A list of the various lawn types and landscape plants for which recommendations are available can be found in Table 1.
6. When the soil is dry, transfer about 1/2 pint of soil into the labeled sample bag from the soil test package.
7. Include these items in the shipping box:
 - Your labeled soil sample(s)
 - This Landscape and Vegetable Garden Soil Test Form (SL136)
 - A check or money order payable to **University of Florida**. Checks written to other names will not be honored and will be returned, causing a delay in processing the samples.

Mail your sample to:

**UF/IFAS Analytical Services Laboratories
Extension Soil Testing Laboratory
Wallace Bldg. 631, 2390 Mowry Road
PO Box 110740
Gainesville, FL 32611-0740**

Test Results

A soil test report, including notes to help you use these results to your best advantage, will be emailed/mailed to you in 3–6 days after your sample arrives at the Extension Soil Testing Laboratory. Contact your county UF/IFAS Extension office if you have questions about the soil test report.

Table 1. List of lawn types and landscape plants for which recommendations are available. Please record the applicable code numbers on page 1 of this form under Crop Code(s).

Crop Code	Lawns
72	Bahiagrass
73	Bermudagrass
74	Carpetgrass
75	Centipedegrass
76	Ryegrass
77	St. Augustinegrass
78	Zoysiagrass
Crop Code	Landscape Plants and Vegetable Gardens
603	Landscape azaleas, camellias, gardenias, hibiscus or ixora
67	Blueberries
62	Dooryard citrus
602	Woody ornamentals or trees in the landscape
90	Vegetable garden

Area Irrigated		Gallons of Water to Apply:		
Square Feet	Acres	3/4"	1"	1 1/2"
1	n/a	0.4675	0.6234	0.9351
10	n/a	4.7	6.2	9.4
16	n/a	7.5	10.0	15.0
32	n/a	15.0	19.9	29.9
100	n/a	46.8	62.3	93.5
500	n/a	233.8	311.7	467.5
1000	n/a	467.5	623.4	935.1
10890	0.25	5091.4	6788.6	10182.8
43560	1	20365.7	27154.3	40731.4