

Plan your Garden

Fort Gordon Community Garden Club

Kathleen Duncan



PLAN your garden

Today we will review...

- ▶ Start with a PLAN - Planning notebooks and UGA plant guides
- ▶ PLAN small and work up (even a Patio can produce edibles)
- ▶ PLAN early for good soil - compost - amendments and mulch
- ▶ PLAN succession plantings
- ▶ PLAN row and/or section plantings
- ▶ PLAN a Square Foot Garden
- ▶ PLAN for your pollinators -
- ▶ PLAN for Frost protection -
- ▶ PLAN for some vertical space
- ▶ PLAN for Fruits and Nuts with your veggies

Start with a PLAN - Planning notebooks - Planting Handouts

► Think (dream) - Look it up - Write it down

What do you like to eat? Do you plan to can or freeze your crop? Plan for rotation so you can keep your soil healthy - maybe plan to compost? Grow what you can't buy or is expensive to buy. Grow plants next to each other that complement each other (Companion Planting) Small area? Plant by square foot gardening guide.

How long will each plant need from seed to table? Plan for succession planting for fresh vegetable and/or plan for one "canning/freezing" harvest.

*** Invite friends and family to help on a canning day and get a part of the crop? ***

Things to write down: Draw a layout plan of your garden, note succession plantings (One or two weeks apart), include your pollinators, pathways so you don't compress your soil, decide and design raised beds, square foot, or row planting? Track when you planted what and where so you can see how long it takes to grow to harvest. Journal how it did: what bugs got it, was it too wet/dry??? Did it spread more than you thought?

Handouts:

- 1 - Planning Notebook pages
- 2 - UGA planting Guide and calendar
- 3 - Patio Herb Plantings
- 4 - Small Garden Succession Planting
- 5 - Companion Planting Guide
- 6 - Crop rotation guide
- 7 - Georgia Planting Schedule Zone 8
- 8 - Getting more from the garden
- 9 - Garden Planning Chart

PLAN small and work up

- ▶ Easy Veggie Picks: Radishes, green beans, cucumbers, summer squash, zucchini, garlic, leaf lettuce, snap peas, Swiss chard, and Kale.
- ▶ Tomatoes are a little bit more difficult but worth the taste difference from store bought.
- ▶ Perfect Patio Garden plants for pots: Tomatoes, Herbs, cucumbers, bush beans, potatoes, onion, broccoli, and lettuce - Use: Two feet square wooden boxes that are 18 inches deep, half barrels, over-sized clay pots, and large nursery tubs all work for patio vegetable containers.
- ▶ *Remember : Potted Plants are frequent feeders*
Raised beds - easy on the back, less weeds,
less disease but more cost PLAN to add one a year until
you reach your “work” limit



PLAN early for good soil - compost - amendments and mulch

Developing and maintaining productive soils begin with soil testing. Soils tests provide information on the soil's actual nutrient status. Test results are used to determine the amount and kind of nutrients that should be added for the best growth of lawn, garden, and other types of plants.

PS: It is easier to fill out the front information on the bag BEFORE you fill with your soil. CROP= Vegetables, Lawn, Herbs, fruit trees etc.

SOIL SAMPLE BAG

The University of Georgia

Soil, Plant, and Water Laboratory
2400 College Station Road
Athens, Georgia 30602
Check Terms Requested: Submit Fee \$10.00

☐ ROUTINE TEST pH, P, K, Ca, Mg, Zn, Mn, Li, S
☐ Organic Matter
☐ Soluble Salts ☐ Nitrate
☐ Greenhouse/Nursery Test Artificial Media Only

---FILL TO THIS LINE---

NAME _____
ADDRESS _____
CITY _____
ZIP CODE _____
CROP _____
SAMPLE NUMBER _____

608 Crestline Gardens
Augusta, GA 30601-1428

Instructions For Taking Soil Samples

1. With a spade, shovel, auger, or soil sampling tube, take a thin vertical slice or core of soil from at least 10-20 different places in the area to be tested. Combine, mix thoroughly together, and fill the soil sampling bag to the FILL LINE. Fold top to FILL LINE and fasten metal flap securely to avoid spillage during shipment.
2. For row crops sample to plow depth; for lawns and turf and pasture surface 4" depth; gardens surface 6" depth; ornamentals surface 6 to 12" depth; and pecan groves surface 8 to 9" depth. For more detailed information on soil sampling guidelines contact your county Extension office.
3. One sample should represent no more than 15 acres. If more than one soil type is present within sampling area, take a separate sample from each soil type. Avoid sampling high and low spots, areas along roads, old fence rows, fertilizer bands, etc. Sample problem areas separately.
4. Complete the items requested on the front of the bag and return sample to your county agent.

Cooperative Extension
The University of Georgia
College of Agriculture and Environmental Sciences

Steps in Soil Sampling

Recommendations about when and how to apply nutrients are only as good as the soil sample submitted for analysis.

To obtain a representative soil sample, the following steps are useful: identify sampling locations (zones), determine the sampling depths, use the right sampling tools, sample at the right time, and handle the samples accordingly.

1. Sampling Locations

Map out the area where the plants are to be grown or are presently growing. This will help in record keeping and ensure that the soil is taken from throughout the entire area.

Divide the area such that each soil sample represents one plant type or condition. An area that has been divided according to obvious differences in plant types, plant performance, soil types, and drainage is shown in Figure 1.

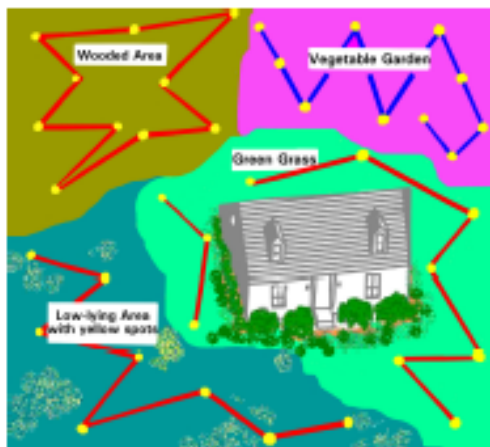


Figure 1. Area divided according to vegetation and soil characteristics. Yellow dots indicate sampling points.

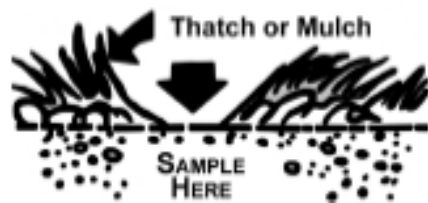


Figure 2. Remove grass thatch or mulch before sampling.

- Use a zigzag approach when taking samples. Collect 8-10 soil samples from each location (zone) as shown in Figure 1.
- For trees and shrubs, take soil samples from six to eight spots around the drip-line of the plants.

2. Sampling Depth

The depth of sampling depends on the type of plants being grown.

- For lawns, sample to a depth of 4 inches.
- For gardens, ornamentals, mixed fruit trees and wildlife plots, sample to a depth of 6 inches.

3. Sampling Time

Soil sampling should be done well in advance of planting or spring green-up. This allows adequate time for sample analysis, data interpretation, and fertilizer and lime application.

4. Sampling Tools

Use clean sampling tools and containers to avoid contaminating the soil sample. Never use tools or containers that have been used for fertilizer or lime. Collect samples with tools like trowels, shovels, spades, hand probes or hand augers.



Figure 3. Soil sampling with a trowel.

5. Sampling Procedures

Clear the ground surface of grass thatch or mulch (Figure 2). Using a trowel, push the tool to the desired depth into the soil. Push the handle forward, with the spade still in the soil to make a wide opening. Then, as shown in Figure 3, cut a thin slice from the side of the opening that is of uniform thickness, approximately 1/4-inch thick and 2 inches in width, extending from the top of the ground to the depth of the cut. Collect from several locations. Combine and mix them in a plastic bucket to avoid metal contamination. Take about a pint of the mixed soil and place it in the UGA soil sample bag. Be sure to identify the sample clearly on the bag and the submission form before mailing.

Sample Handling

Samples should be air dried overnight. Dry samples on a flat surface lined with clean white paper. Take care to avoid contamination. After drying, transfer the sample to the soil sample bag and bring it to your local extension office. Your extension office will send samples to:

The Soil, Plant and Water Lab
University of Georgia
2400 College Station Road
Athens, GA 30602-9105

For more
information, contact
your local
Cooperative
Extension Office at
1-800-ASK-UGA1

Soil Test Report

Lea Muller
 (CECECEA Signature)

Sample ID

Client Information	katheleen.s.duncan4.naf@mail.mil	Lab Information	County Information
Duncan, Katheleen	706-791-9483	Lab #63347	Richmond County
44401 44th Street		Completed: Jun 2, 2016	602 Greene Street
Fort Gordon, GA 30905		Printed: Jun 9, 2016	Augusta, GA 30901
Sample: Left Side		Tests: S1	phone: 706-821-2350
Crop: Home Vegetable Garden			e-mail: ugc3245@uga.edu

Results

Mehlich I Extractant						pH and Lime	
Nutrients not needed						No phosphate (P), potash (K), or lime needed if shaded bars are above this line:	Lime not needed
Nutrients needed							Lime needed
	Phosphorus (P)	Potassium (K)	Calcium (Ca)	Magnesium (Mg)	Zinc (Zn)	pH	
Soil Test Index	314 lbs/Acre	481 lbs/Acre	3345 lbs/Acre	300 lbs/Acre	37 lbs/Acre	6.9	Soil Test Index

Recommendations

Can't find a specific grade of fertilizer? Try our Fertilizer Calculator: <http://aesl.ces.uga.edu/soil/fertcalc/>

No Limestone recommended.

Recommended pH: 6.0 to 6.5

Broadcast 10 pounds of 34-0-0 or 7½ pounds of 46-0-0 per 1000 square feet; or apply 3 pounds of 34-0-0 or 2¼ pounds of 46-0-0 per 100 linear feet of row.

The recommendation given above is for medium feeders, which includes crops such as beans, beets, cantaloupes, cucumbers, eggplant, okra, onions, tomatoes, english peas, peppers, radish, squash, watermelon, and sweet potatoes.

For heavy feeders such as broccoli, cabbage, greens (kale, mustard, turnip, collards), lettuce, irish potatoes, and sweet corn, increase the recommendation by 50%.

For light feeders such as southern peas, reduce the recommendation in half.

Apply 1 tablespoon of borax per 100 feet of row to broccoli and root crops such as turnips and beets. This can be applied by mixing the borax thoroughly with approximately 1 quart of soil in a container and then applying the mixture along the row; or it can be mixed with a quart of water and applied to the soil in solution.

For better fertilizer availability on sandy soils, apply half of the recommended fertilizer just before planting and the remainder when the crop is half grown. In years with unusually heavy rainfall on sandy soils, 3 pounds of 34-0-0 or 2 pounds of 46-0-0 may be added to replace nutrients lost from the soil due to heavy rains.

Typical Soil Test Report provides recommendations for Soil Improvements.



If you get your soil tested at the end of the winter, add lime immediately as recommended by the test results. Lime works best when mixed or tilled into the soil at the depth in which your garden will be planted — so don't just spread lime on the surface of the vegetable garden and hope it works. Mix it into the soil well before your frost-free date indicates you can plant your vegetables or flowers.

Learning for Life

The University of Georgia and Fort Valley State University, the U.S. Department of Agriculture and counties of the state cooperating.
 Cooperative Extension offers educational programs, assistance and materials to all people without regard to race, color, national origin, age, gender or disability.
 An equal opportunity/affirmative action organization committed to a diverse work force.

Mulch - WHY?

- ▶ **Surface Insulation**
 - ▶ To conserve moisture
 - ▶ To moderate extreme temperatures
 - ▶ To control weeds
- ▶ **Soil amendments**
 - ▶ To improve soil aggregation and granulation
 - ▶ To increase water absorption and retention
 - ▶ To prevent soil compaction and improve aeration
- ▶ **Beautification**
 - ▶ To make surface area more attractive
 - ▶ To make surface area more usable for pathway
 - ▶ To make area easier to maintain

Change your soil ph with Mulch

<https://www.grow-it-organically.com/changing-soil-ph.html>



PLAN for Succession Plantings

Whether your garden is small or large, with succession planting it can provide continuous fresh veggies to harvest.

- ▶ Cool season plants in Zone 8: Broccoli, Beets, Cabbage, Carrots, Cauliflower, Kale, Lettuce, Peas, Spinach. *Start Onions, Peppers and Tomatoes indoors about mid to late February and Brussel Sprouts and Beans in mid to late March or plant into garden early to mid May when it is warmer.*
- ▶ Warm Season Plants in Zone 8: Corn, Cucumber and Squash plant beginning or middle of June.
- ▶ Fall Cool Season plants in Zone 8: plants seeds indoors around Aug NLT first part of September or in ground directly, mid September - needs milder temperatures to germinate - same list as Cool Season plants above -



PLAN row vs section plantings



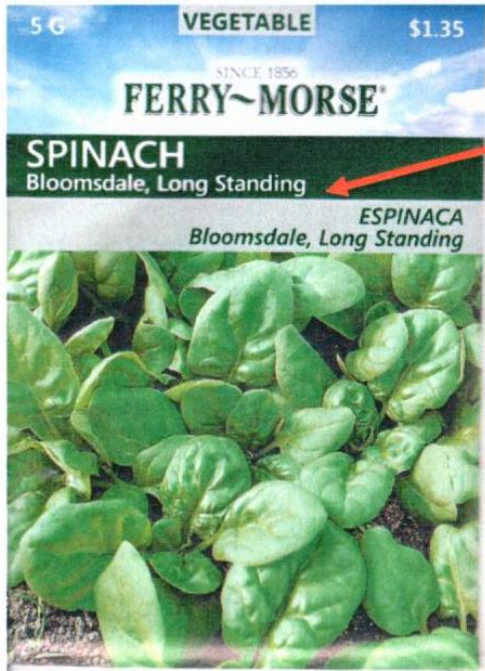
- ▶ Its time for MATH - yuck
 - ▶ If you have a row of beets 4 ft. long, 12 wide = 4 sq. ft. = 12 plants in row
 - ▶ If you have a 2ft by 2 ft. square section of garden = 4 sq. ft. and stagger plant beets in that area you can get 36 plants in the same square feet.

Row gardening is great if you are using tillers or machine or push hoes and save time (And your back) in the maintenance.

Section gardening allow more plantings but you have to be able to reach your plants, not compress soil so allow for pathways. Mulching can reduce hand weeding but adds cost.

Now using the chart of average food amount consumed per person, how much do you have to plant to meet your needs (allow for some crop loss to pest and weather)?

Remember to avoid having too much at one time, plant in one to two week intervals. Plan for germination and Harvest time...see next slide on "Days to Harvest" on seed packets.



Variety / Cultivators

How many days until you see a sprout...

How deep to plant your seed

Row should be (12 inches) apart and each plant in that row should be (6 inches) apart

You SHOULD be able to harvest in (45) days

Months that you can plant in (In this case two spring FEB-MAR and Fall AUG-SEPT

Planting instructions : Sow in open ground ... THIN at a few inches tall (Sometimes it will say to start indoors, Nick seed, soak overnight etc.), read this part carefully

"Sell By Date" like Milk look for this

CARE & MAINTENANCE CUIDADO Y MANTENIMIENTO

DAYS TO GERM 8 - 10	DÍAS A GERMINAR 8 - 10
DEPTH 1/2 in.	PROFUNDIDAD 13 mm
SPACING 12 in./ 6 in.	ESPACIO 30 cm/ 15 cm
DAYS TO HARVEST 45	DÍAS DE COSECHA 45

Sow in open ground well exposed when soil is warm. Thin when plants are a few inches tall. Harvest before flower stalk forms.

Siembre en terreno abierto bien expuesto cuando el terreno esté cálido. Reduzca cuando las plantas tienen unas cuantas pulgadas de alto. Coseche antes de que se formen los tallos de las flores.

Plantation Products LLC.,
202 S. Washington St.
Norton, MA 02766
plantationproducts.com

0 11192 40305 0

SEED FOR 16 → SELL BY 12/16 R

Page 2 UGA Planting guide
<https://secure.caes.uga.edu/extension/publications/files/html/C963/C963VegeChart.pdf>

Try to match “Cultivators”



spinach	40-45	Melody, Winter Bloomsdale, Hybrid #7
squash, summer (zucchini)	40-55	Any yellow or green—all are good and easy to grow. Use compact varieties for limited-space gardens.
squash, winter	85-120	Acorn, Buttercup Bonbon, Butternut

Jan. 15 – Apr. 1	Sep. 1 – Oct. 15	1 ounce	24" x 1"	0.5"
Jan. 15 – Mar. 15	Sep. 1 – Oct. 15	1 ounce	18-36" x 2"	0.5"-0.75"
Apr. 1 – May 15	Aug. 1 – Aug. 25	0.5 oz	36" x 24"	1"-2"

PLAN a square foot garden

Square foot gardening is a simple method of creating small, orderly, and highly productive kitchen gardens. It was invented by backyard gardener, retired engineer, and efficiency expert Mel Bartholomew as a better way to grow a vegetable garden, and it became a huge hit when he introduced the idea to the gardening public in 1981 in his book *"Square Foot Gardening"*.

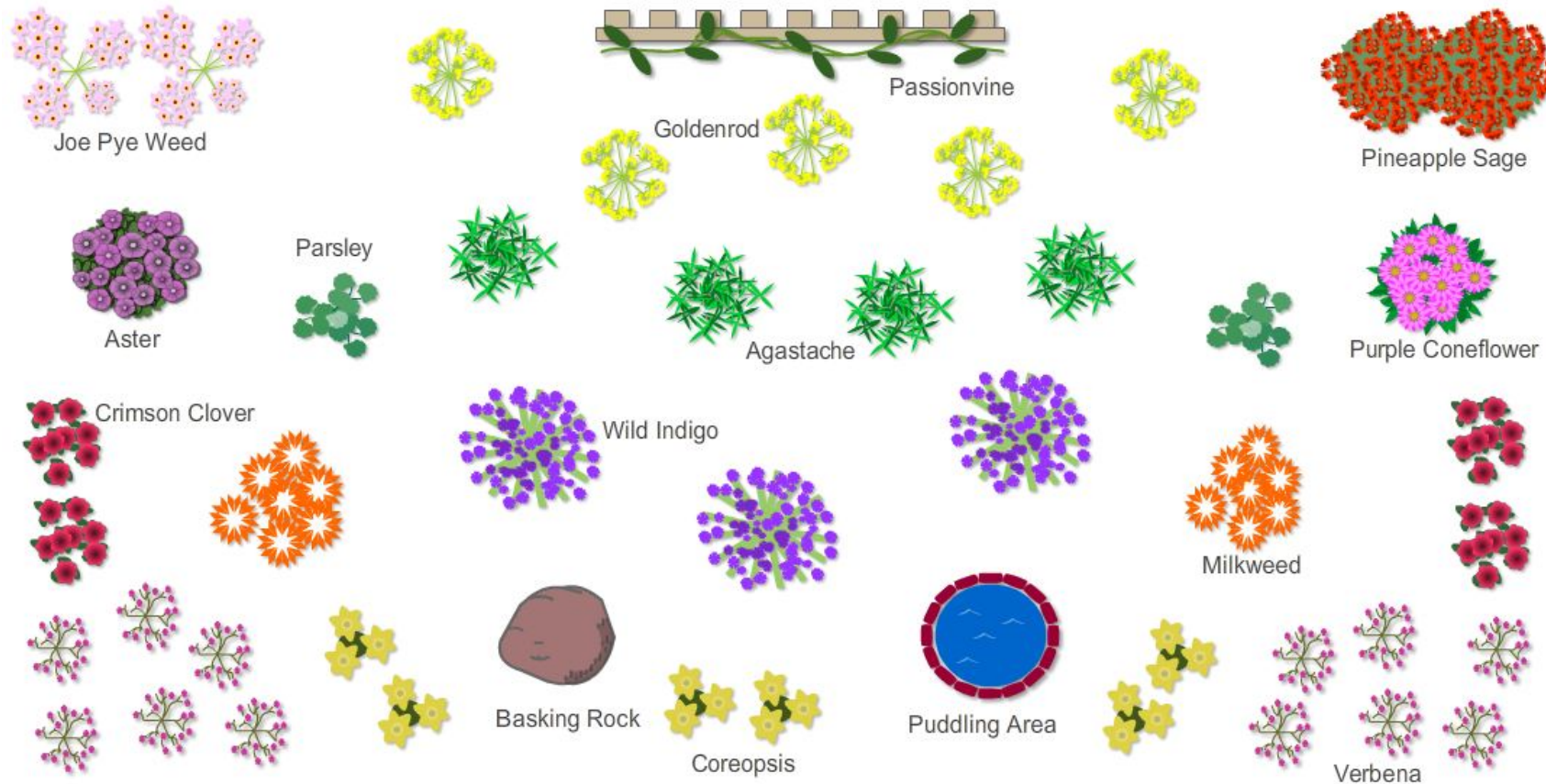
The basic concept: Create a small garden bed (4 feet by 4 feet or 4 feet by 8 feet are common sizes) and divide it into a grid of 1-foot squares, which you manage individually. Seeds or seedlings of each kind of vegetable are planted in one or more squares, at a density based on plant size (e.g., you'd plant about 16 radish seeds per square, but only one tomato plant). Since there are no paths, there is no wasted space, and the soil in the bed stays loose because you never step on it.

Less weeding: If you build a square foot garden filled with soilless mix, there will be few if any seeds in it (depending on the compost you use) and thus no weeds to pull for the first season. Weeds will, however, become more common over time as seeds blow or fall into the bed.



Soilless Mix
The lighter-than-dirt mixture used for square foot gardening is the following: $\frac{1}{3}$ peat moss, $\frac{1}{3}$ vermiculite and $\frac{1}{3}$ compost. For a 3.5 cubic foot bag of vermiculite, on average you will spend \$18. A 3.8 cubic foot compressed amount of peat moss is roughly \$9. You should acquire different types of compost. You can usually find several different mixtures of compost in bulk for around \$30 a truckload. You can also buy it pre-bagged. A 1 cubic foot bag usually costs around \$2.

PLAN for your Pollinators



Herbs That Attract Butterflies

Butterflies are the happiest in sipping on flowers planted in areas with good sun and little or no wind: Chives, Thyme, Marjoram, Catmint, Mint, Chives, Yarrow, Parsley.

Don't forget a shallow bowl for water for the pollinators

Herbs That Attract Bees
Bees prefer single-petaled flowers as they make it easier to get to sweet nectar. Try planting: Basil, Lemon balm, Lavender, Anise, Hyssop, Borage, Germander, Sage, Savory, Chamomile, Rosemary, Dill, Betony, Lamb's ears, Thyme, Dandelion.

Herbs That Attract Hummingbirds

Hummingbirds are pollinators, too! Tubular blossoms are the main course for hummers. Plant herbs such as:
Bee balm, Lavender, Pineapple sage, Hyssop, Mint, Rosemary, Catnip, Comfrey, Mallow, Globe Thistle

PLAN for Frost Protection

Bed sheets, drop cloths, blankets and plastic sheets make suitable **covers** for vulnerable **plants**. Use stakes to keep material <especially plastic> from touching foliage. Remove the coverings when temperatures rise the next day. For a short cold period, low plantings can be covered with mulch, such as straw or leaf mold.

- ▶ **Insulate.** Spread a fresh 2- to 4-inch blanket of mulch to protect plants.
- ▶ **Wrap.** Keep plants protected with a row or plant cover, or garden blanket. Another option: burlap.
- ▶ **Take cover.** Store your plants in covered places such as a porch, patio, cold frame, liter/milk bottles or greenhouse until the weather passes.
- ▶ **Resist watering.** Water thoroughly several days ahead of expected frost or freeze, snow or ice, if possible.



PLAN for some vertical space

- ▶ Use your fence or add some fence for vining plants
- ▶ Make T-pee's for support
- ▶ Baby gates - Bamboo- sticks...

Up - means easy to reach, off the ground prevents rot problems, and it saves space in the small garden.



PLAN for Fruits and Nuts with your veggies

- ▶ A variety of fruit can be grown in your garden area. Vining fruit such Blackberry and Raspberry do well on a sturdy fence. Some dwarf varieties of fruit trees like apple and pear make lovely espalier plants. Strawberries are great if you can keep the birds out (Plan for that too). Watermelons come in many, many varieties and are delicious on a summer day. Blueberries are a traditional Georgia Fruit.
- ▶ Almonds, Chestnuts, Black Walnuts, Carpathian Walnuts can be grown in Georgia - There is more to Georgia nuts than Pecans and Peanuts! (Technically peanuts are a legume)

