Good Dirt = Good Beginnings

Fort Gordon Community Garden Topic

Soil Testing

There are several nutrients that are essential for plant growth. A soil test is used to determine the amount of these nutrients in the soil. The soil test results are subsequently used to make a soil test report. In addition to indicating the level of nutrients in your soil, the report will also tell you the pH value or how acidic or basic your soil is, and it will make a recommendation for the amount and type of fertilizer and/or lime you need to add to the soil for optimum plant growth. This allows you to customize your soil treatment applications to your plants' needs.

Following the recommendations will help prevent problems with nutrient deficiencies (in the case of under-fertilization) or problems associated with over-fertilization, such as excessive vegetative growth, delayed maturity, salt burn, and ***wasted money***. In addition, it can protect against environmental pollution resulting from excessive fertilizer applications. Testing the soil is very important because is some parts of the state the soil may already contains high levels of phosphorus or calcium, and may already be in the correct pH range (or higher). In these cases, the indiscriminate addition of lime or a fertilizer containing phosphorus may create nutrient imbalances that reduce plant health.

How to Test Your Soil – to plant or help diagnose problems

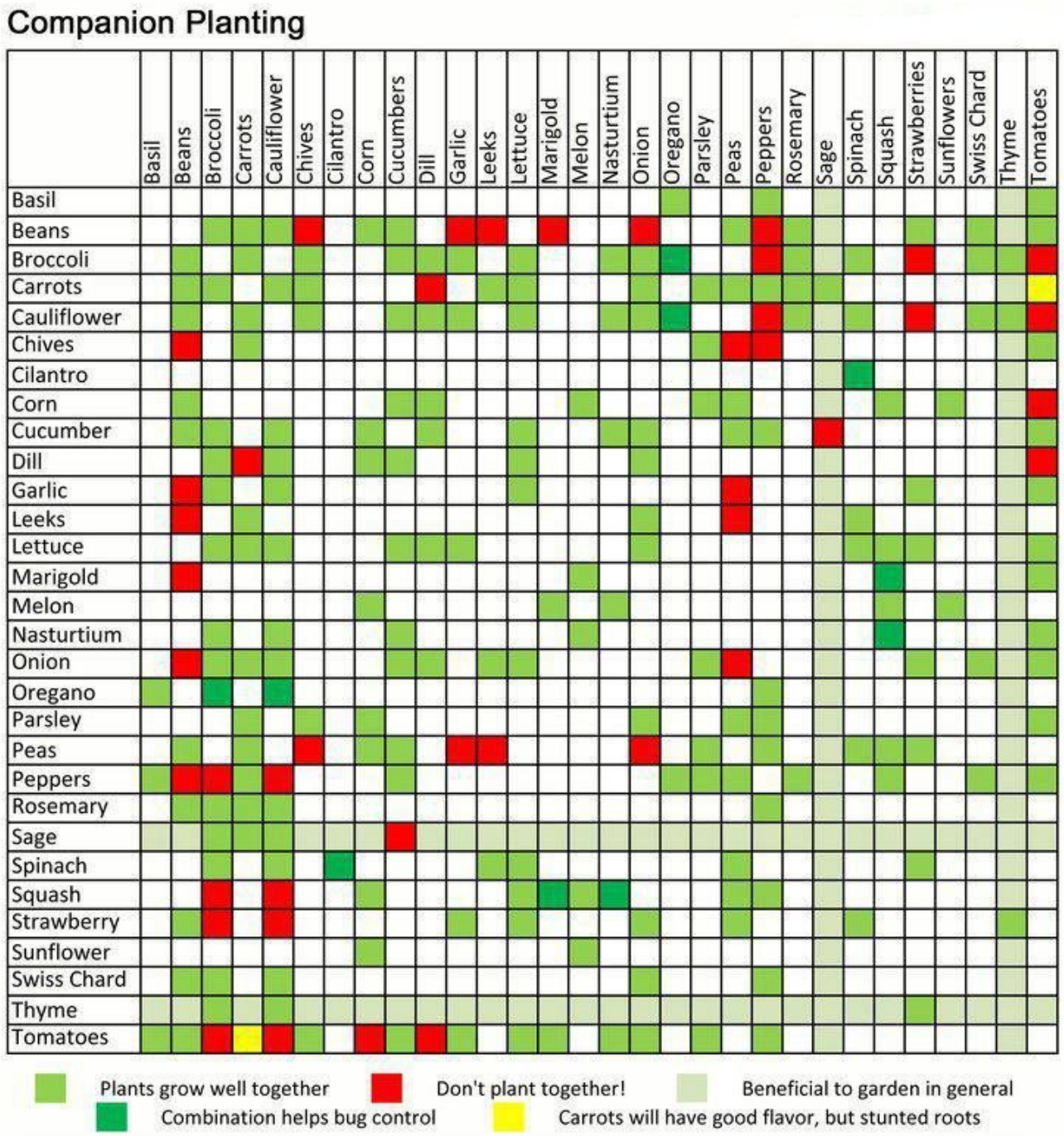
- Take several samples in each area (Crop: Vegetable Garden, Ornamental, Lawn etc.)
- Use a zig zag pattern thru the area to be tested taking small sample from 8 to 10 spots.
- Around trees or shrubs 6 to 8 samples around drip line (where the shrub or tree line reach).
- Gather soil from a depth of 4 inches for lawn and 6 inches for all other plantings.
- ALWAYS use clean containers and trowels to gather samples.
- Clear area of mulch or debris, dig hole to needed depth then slice a ¼ in slice from the side of the whole from top to bottom. See picture below.
- Mix in clean bucket all of your samples for that area or problem
- Fill out form on sample bag first, then fill to line indicated on bag or about a pint of soil.
- Bring to county extension office for testing, results are emailed or mailed to you in about 7 days (they are sent to UGA lab)

Crop Rotation for Soil, Pest and Disease Control

Crop rotation is very important in reducing losses to vegetable diseases. Continuous plantings of the same plant family of vegetables in the same spot provide opportunities for pathogen buildup. Only grow the same type of vegetable or closely-related vegetables in the same soil once ***every three to five years***. This practice starves out most pathogens that cause stem and leaf diseases. Longer crop rotations and/or other management methods may be needed for soil-borne problems such as root and crown diseases caused by the fungi *Phytophthora*, *Rhizoctonia*, *Pythium* and *Sclerotium*, vascular wilts caused by *Ralstonia* or *Fusarium*, and root-knot nematodes. These organisms are long-lived and affect many plant families.

Table 1. Commonly grown vegetables and their plant families.

Alliaceae	Brassicaceae	Cucurbitacae	Fabaceae	Solanaceae
Chives	Broccoli	Cantaloupe	All beans	Eggplant
Garlic	Brussels sprouts	Cucumbers	English peas	Peppers
Leeks	Cabbage	Honeydew melons	Southern peas	Potatoes
Onions	Cauliflower	Pumpkins		Tomatoes
	Collards	Squash		
	Lettuce	Watermelon		
	Mustard			
	Radish			
	Rutabaga			
	Spinach			
	Turnip			
Asteraceae	Poaceae	Malvaceae	Chenopodiaceae	Apiaceae
Lettuce	Corn	Okra	Spinach	Carrot



Many long time gardeners swear that growing certain plants together improves flavor as well. While science hasn't found support for some of the benefits of companion planting, there is support for the above information. Garden wisdom and experience supports these traditional beneficial plant companions. Almost any article on companion planting references the Native American "Three Sister Planting". This age old grouping involves growing corn, beans and squash – often pumpkin - in the same area. As the corn stalks grow, beans naturally find support by climbing up the stalk. Beans, as all legumes, fix nitrogen in the soil, which supports the large nutritional needs of corn. Squash grows rapidly and the large squash leaves shade out weeds and serve as natural weed block. Good plant companions work in support of each other.

Composting and using composted material in your soil

Simple rules of Composting:
1 –50/50 mixture of GREEN AND BROWN and light daily watering if needed.
2 - GREEN : Fruit or Vegetable scraps, coffee grounds, tea, and garden refuse, green grass
NO diseased plants or weeds or seed pods of plants
3 - BROWN compost: shredded or small piece of clean paper/clean light cardboard (Paper or cardboard with NO printing on it, dried grass, fall leaves, straw, and sawdust or wood chips.
NO diseased plants or weeds or seed pods of plants – Compost smells, place away from your home

Using compost can be a great addition to your garden…. but stinky

Compost as a side dressing - Side dressing requires less compost, from just a few handfuls scattered around one plant to 1 inch of compost placed between rows or around plants. Since deep cultivation would disturb growing roots, side dressing is worked into the surface, never touching the plants themselves.

Compost as a mulch - https://www.gardeningknowhow.com/composting/basics/compost-as-garden-mulch.htm Leave mulch is a good all around mulch but do you research on what compost much is best for the PLANT you are mulching.

Compost as a “Tea” - http://www.compostjunkie.com/compost-tea-recipe.html Tea recipes are everywhere, from your grandpa to Farming books to the web. Search based on the plants you are serving tea to ☺

I ALWAYS use a “Tea Bag” either a cotton pillow case, or fine mesh Landry bag so I can spray or put in my waiter can and not plug up the wholes.

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