



Garden Wise

April 2014



Garden Wise

Spring is here, and I am sure you are all ready to have long beautiful days in the garden. I was lucky enough to meet with several of the community garden leaders last month, and I heard so many wonderful things about our community. We have sixty community gardens in Guilford County, which is a huge increase in the past two years. How awesome is that!? I am so excited for the upcoming growing season and I'm ready to hear and share all of your community garden success stories. As our soil continues to thaw and we plant our seeds and seedlings, maybe for the second time, remember to reflect on the tranquility of your garden during the long restful winter, and prepare yourself for the rush of activity that is about to take place right in front of your eyes. Happy Gardening!

Eva Preiser, EMGV



*"And Spring arose on the garden fair,
Like the Spirit of Love felt everywhere;
And each flower and herb on Earth's dark breast
Rose from the dreams of its wintry rest."*

-Percy B. Shelley, "The Sensitive Plant"

EMGV Passalong Plant Sale and Festival

Mark your calendars! **Our Extension Master Gardener 2014 Passalong Plant Sale and Festival is Friday, May 9 and Saturday, May 10 at the Agriculture Center** on Burlington Road. Plan to bring your wish list, family, and friends for a wide variety of healthy plants that are sure to fit your garden needs! We'll have education and information galore, too. Don't miss out!



- **Friday, May 9** **9 am - 3 pm (best selection!)**
- **Saturday, May 10** **9 am - 11:30 am (best prices!)**

Grow Your BEST Tomatoes Ever!



With the arrival of the Piedmont's **Average Last Frost Date** (typically quoted as **April 15**), garden centers, farmers' markets, and plant sales throughout the region will soon begin selling tomato transplants. Home gardeners who choose not to start their own tomatoes from seed will be flocking to these outlets to find just the right variety to plant in order to produce the taste treat that all salivate for: the perfect, juicy, savory-sweet goodness that shouts "Summer!"

Before you join the flock, let's talk about what it will take to grow your BEST tomato crop ever:

Be realistic

Educate Yourself

Set appropriate goals

Take good notes

If you are growing your vegetables in a 16x3' raised bed, you already know there are limitations on what you can realistically grow. Planning for your 2014 tomato crop is no different. If you have the room, a good rule of thumb is a couple of tomato transplants per tomato-eating family member...with maybe a salad- or cherry-type for good measure.

In educating yourself on what to look for when buying tomato transplants, the "big picture" considerations are: what varieties to buy; how to select the healthiest transplants; and when to make your purchases.

In setting appropriate goals before you begin your tomato purchase quest, ask yourself:

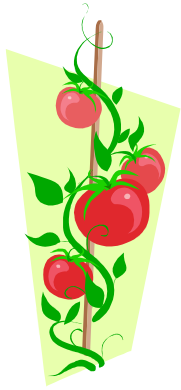
- What type(s) of tomatoes do you desire to harvest?
- When (throughout the tomato growing season) do you wish to harvest?
- Where do you plan to plant your tomatoes...garden setting or containers, or both?

What do you desire to harvest?

Tomato transplants come in varieties based on size, shape, color, and uses (slicing, salad, and sauces). Additionally, tomatoes are often classified as either **Heirlooms** or **Hybrids**.

Heirloom tomatoes are varieties grown from seed saved from season to season, and passed down for at least three generations. Heirloom varieties hold on to the parents' characteristics generation after generation, which is important, if you want to save and reuse or exchange seed. The term "Heirloom" is actually a marketing term, generally applied to named tomato varieties from the World War II era, or at least 50 years old. Since the seed does reliably reproduce transplants like the parent, the term **Open Pollinated** or **OP** is more accurate. While they do tend to be less disease resistant and less uniform in appearance, fans insist that their flavor and uniqueness make up for any disadvantages. Some named Heirloom varieties that you might recognize include Brandywine, Mortgage Lifter, Cherokee Purple, and German Johnson.





consistent-production, and disease resistance are all traits bred into hybrids. Unfortunately, hybrids rarely retain the characteristics of the parent plant, so saving seed for next year is not recommended. Some named Hybrid varieties you might recognize are: Early Girl, Better Boy, Sun Gold, Sweet 100, Jet Star, Juliet, and Celebrity

Disease resistance, you say? When selecting your transplants, it helps to know what **those letters on the labels** mean. For instance, labels for **Celebrity** read “VFFNT.” This indicates resistance to various diseases to which tomatoes are vulnerable:

- V = verticillium wilt
- F = fusarium wilt (Two Fs on the label indicate resistance to both types of fusarium wilt.)
- N = nematode
- T = tobacco mosaic

New in 2011, a variety named **Defiant** has shown good disease resistance against Verticillium wilt, Fusarium wilts 1 and 2, as well as Alternaria Stem Canker, and late blight, which plagued the Piedmont in 2013. **Mountain Magic** is by the North Carolina tomato breeder Dr. Randy Gardner, with resistance to both early and late blight. Mountain Magic, a cross between a large-fruited tomato and a very sweet grape tomato, is similar to the cultivar “Campari” found in specialty markets. **Iron Lady** is a new variety that has shown good disease resistance to early and late blights as well as Septoria Leaf Spot. First in a new generation of triple resistant varieties, it is from collaboration between Cornell University and North Carolina State University.

When (throughout the tomato growing season) do you wish to harvest?

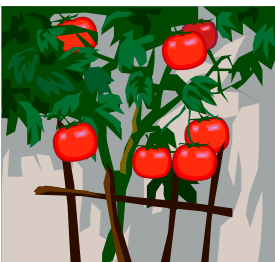
Tomato transplants are often classified based on when the fruit will begin to ripen: **Early Season** (typically 50-69 days to first fruit from date of transplant); **Mid- Season** (70-79 days); and **Late Season** (80 days or longer) tomatoes. Most gardeners like to grow at least one Early Season variety, and possibly one long-growing Late Season type, but usually depend on Mid-Season varieties for their main tomato crop.

Additionally, tomato varieties are classified by their growth habits: **indeterminate** and **determinate**. **Indeterminate** tomatoes can reach over 6' and will bear fruit until frost in fall. If you wish to have tomatoes for slicing or salads all summer long, look for indeterminate varieties, which must be staked or tied to trellises to support the exuberant vine-like stem growth and the weight of the fruit.

Determinate varieties grow to a certain size (typically 3-4 feet, or less) and then bear their fruit all at once. Bush tomatoes and plum tomatoes are the best-known examples of determinate types. Since the crop comes in pretty much at the same time, determinate tomatoes are great for canning or freezing for later use. These varieties do not need staking, but do benefit from the support provided by cages, and they do not need to be “pruned” by removing suckers (a practice often recommended to strengthen the main plant and improve the yields of indeterminate varieties).

Where do you plan to plant your tomatoes? Garden setting, containers, or both?

All tomatoes need “full sun,” meaning you want to select a growing spot that receives at least 8 hours of sun each day. This requirement, along with space considerations, may dictate where you will grow your transplants.





Most indeterminate varieties need lots of room to grow, with spacing requirements from 18-36" in three-foot wide rows, or a 3x3 square in intensively-gardened settings like a Square Foot Garden. The closer you plant tomatoes together, the greater risk you run of increasing susceptibility to diseases and/or pests. Air circulation is an important part of the environment you want to create for your tomato plants. A traditional row-garden setting will help provide adequate air circulation, as will one plant to a 5-gallon (or larger) container. If you avoid overcrowding and can provide proper staking or trellising, you can grow indeterminate varieties in intensive gardening settings, with the recommended squares per plant.

If you grow your tomato crop in containers, look for determinate varieties with the word "bush" in their names.

So, when should you purchase your transplants? The first tomato transplants that arrive in garden centers are typically about 8 weeks old and ready to be put into the ground. It pays to plan to purchase some of these first arrivals, even if you must hold off planting for a few days due to the calendar and/or cold weather conditions.

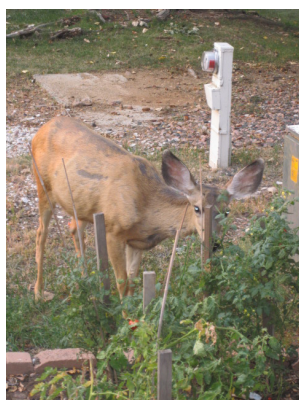
Examine the transplants carefully before purchasing. Look for healthy, green plants with four to six leaves and sturdy, straight stems. Check leaves for signs of insects or disease, such as brown spots, holes or curling. Short, stocky, compact plants are preferable to tall, thin, leggy ones. Avoid plants that appear wilted, yellow or have spindly, thin stems.

An important step that some forget is to inspect the roots to make sure they are moist; dry roots indicate a lack of consistent watering, meaning that particular transplant has already suffered in its young life. Don't hesitate to lift the transplant gently from its cell or pot to inspect the roots and surrounding growing medium.

Possibly the most difficult step is to select young plants without blossoms or fruit, as younger plants tend to establish faster in the garden. While it is tempting to buy the transplant that already has a tiny tomato present, remember that you want the plant's initial energy to go into growing a strong root system. Don't hesitate to remove any early blossoms for better root development. You'll be glad you did when the stress of a long, hot, and potentially dry summer arrives.

And, what happens if you are a bit late in selecting your tomato transplants and all those short, stocky ones are gone? If you must select tomato transplants that seem a bit lanky, you can plant them 4-6 inches deeper in the garden than they grew in the pots. If the plants are *really* leggy, lay the stem in a trench, remove all the leaves up to the top 4-5, and carefully lift the top up while burying the rest of the plant deep. Be sure to stake your transplant (if needed) at planting time, too.

Good luck growing your best tomato crop ever! And, don't forget to take good notes in 2014 to have a great start for next year's garden.
Patricia Lunn Adsit
EMGV



Everyone loves tomatoes!



Blossom End Rot

Why do my tomatoes have this ugly, moist, black spot on the bottom of the fruit?

Well, if you have a black or tan spot on your tomatoes, peppers, zucchini, watermelons or other fruits and vegetables, you may well have blossom end rot.

What causes it?

"BER" is a symptomatic disorder and not a parasitic problem. It is a result of a lack of calcium in the developing fruit which can be caused by a number of things. The most obvious is insufficient calcium in the soil. Too much or too little water impedes the roots' ability to deliver calcium from the soil to the fruit. Also, too much cultivation around the plant to remove weeds injures the roots as well.

How can I prevent it?

Get your soil tested in the fall every 2 or 3 years. This will allow time to make the needed treatment for next season. Lime should be applied and tilled in 3-5 months before planting. A pH of 5.8 to 6.8 should be maintained. If your test states that you have the proper pH but your calcium is low, till in calcium nitrate (gypsum) at a rate of 1 to 2 pounds per 100 square feet. If your garden is well drained, a layer of mulch will accomplish moisture retention and weed suppression.

Remove all affected fruits because they drain moisture and calcium from healthy fruits. If you failed to take the preventive measures suggested above and you have BER, spray your plants with anhydrous calcium chloride when the symptoms first appear. Calcium chloride solutions are available at retail stores under various names. This is only recommended for tomatoes. Follow the directions carefully.

REFERENCES

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rce.rutgers.edu.

Harry Rothrock, EMGV

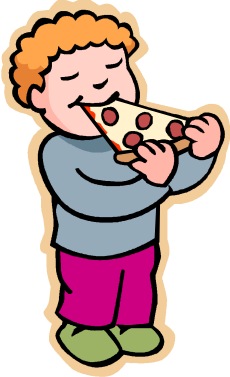


http://hort.uwex.edu/sites/default/files/blossom_end_rot.png

Joey Williamson, ©2009 HGIC, Clemson Extension

How to Grow a Pizza Garden

Karen Neill



Kids love pizza, so why not get them involved creating a garden full of pizza vegetables, herbs, and spices? Grow them in containers or in a section of the yard. Either way, your kids will love to participate, and your pizza will taste extra special. Try something different in the garden this year. Everyone will enjoy growing a pizza garden.

If you have the space, your garden can even be shaped like a pizza. Mark off a circle by putting a stake upright in the ground. Attach a 3 ½ foot piece of string to the stake. Keeping the string tight, walk around in a circle and mark the ground to show the garden's border. Divide the circle into six equal wedges.

In your pizza garden plan to grow three vegetables and three herbs. In one wedge plant 2 or 3 oregano plants. Oregano is a perennial herb that gives pizza the characteristic taste and wonderful smell. It may be used fresh or dried.

Parsley is a biennial herb that reseeds itself. Plant 2 or 3 plants in another wedge.

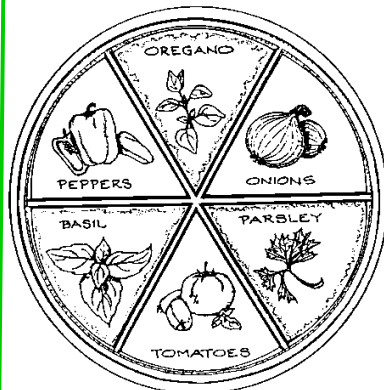
Basil would be the next key herb to plant. My recommendation is sweet basil for your pizza garden. This is an annual herb you will have to plant every year like your Vegetables. You can plant 2 to 3 plants in another of the wedges.

Next come our vegetables. Onions can be planted from seeds or sets. Select red, white or yellow for your garden. You can plant up to 30 onion sets in your garden. These actually are best set out earlier in the year like March so you might need to skip those this year and plant an additional tomato.

Plant 1 to 2 pepper plants in your garden. Plant any green, sweet, bell type of pepper. If you like hot, spicy pizza, plan to also grow a hot pepper variety.

The final wedge will be planted with one **tomato** plant. A paste tomato variety, such as Roma, is recommended for your pizza garden. Roma has small, oblong tomatoes with a thick meaty flesh.

The pizza garden could be a fun project for the whole family to get involved in.



<http://lancaster.unl.edu/hort/youth/pizza.gif>

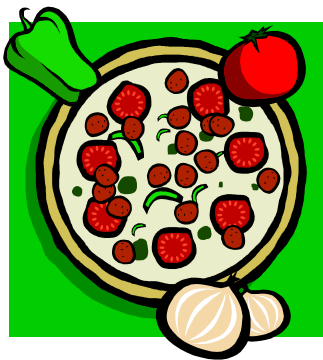


photo: <http://escambia.ifas.ufl.edu/Ing/files/2012/01/pizza.jpg>

Recipes for the Impending Harvest

Healthy Spinach Alfredo Pizza

A favorite, this thin-crust pizza is chock-full of flavor and nutrition-and an excellent way to use up leftover veggies!



- 6 whole wheat tortillas
- 1 garlic clove, minced
- 3/4 cup reduced-fat Alfredo sauce
- 1 package (10 ounces) frozen chopped spinach, thawed and squeezed dry
- 2 teaspoons lemon juice
- 1/4 teaspoon salt
- 1/8 teaspoon pepper
- 2 cups veggies (I use mushrooms, tomato slices, artichokes, onions, green pepper)
- 3/4 cup grated cheese (I used grated Parmesan and reduced-fat Feta crumbles)
- 1/2 teaspoon crushed red pepper flakes

Place the tortillas on a baking sheet. Bake at 350 degrees for 3 minutes. Spread 2-3 tablespoons Alfredo sauce over each tortilla. In a small bowl, combine your choice of veggies with lemon juice, salt and pepper; spoon evenly over sauce. Sprinkle with Parmesan cheese and pepper flakes. Bake at 425° for 11-13 minutes or until heated through and cheese is melted.

YIELD: 6 SERVINGS.

Note: I use fresh spinach and sauté it with the onions and garlic in a little olive oil for about 2 minutes.

MAKE IT EASY

Serve the pizza with a bowl of green salad topped with fruit chunks, a sprinkle of nuts/cheese/dried cranberries, and fat-free raspberry vinaigrette for a simple weeknight meal.

Skillet Tomatoes and Zucchini

- 1 teaspoon margarine
- 2 small onions, chopped
- 4 small zucchini, thinly sliced
- 2 medium tomatoes, chopped
- Freshly ground pepper



In a large nonstick skillet, melt margarine over medium heat. Add onions and cook, stirring until softened. Add zucchini and cook for 2 minutes. Add tomatoes and cook for 3 to 5 minutes or until zucchini are crisp tender. Season to taste with pepper. Feel free to add fresh or dried herbs.

Yield: 4 servings Calories per serving: 60

For more information contact:

Geissler Baker, M.Ed.

Extension Agent, Family & Consumer Sciences

Squash Bugs and Early Blight on Squash and Tomatoes

Here we are in planting season, and you have probably forgotten about the possible “what am I going to do with all this zucchini” problem. So let’s think about some threats to your squash harvest. But first: test your soil and correct any problems. Healthy plants fare better against bugs and diseases.

Squash bugs, *Anasa tristis* attack squash, pumpkins and other cucurbits across the US, Central America and southern Canada. After overwintering in debris or other hiding places, they emerge, mate and lay eggs, often on the underside of leaves—about 20 small eggs/female, often in a V shape-- starting in June and continuing through mid-summer. Ten days later the nymphs appear and begin sucking sap from leaves, leading to wilting due to toxic saliva.

Damage can be heavy, particularly to young plants. The fruits are sometimes attacked as well.

Squash bugs, like stink bugs, produce a bad smell, probably a discouragement to possible predators as well as home gardeners.

Control

Early control by removing the adults and the nymphs, or the eggs, can be done by hand or by placing boards or newspaper near plants and killing the sheltering bugs. There are wasp species predators. *Trichopoda pennipes* is the best known but it is apparently not available for purchase.

Remove debris from around plants, and at the end of the growing season.

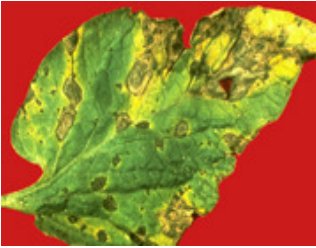


Blight on Squash occurs due to *Phytophthora*, a widespread and destructive disease that attacks cucurbits as well as peppers, eggplants and tomatoes. Depending on plant maturity at the time of infection, any part of the plant including fruit may be affected. It is associated with water. It causes crown rot when water can pool at the crown of the plant, or it affects fruit that are in contact with soil. The rot can look like bands or rings. A black soil line lesion on stems is a common sign.

Rain, warm [75-85 degree] temperatures, and poor drainage favor infection.

Control

- Practice crop rotation.
- Make sure drainage is good.
- Avoid overhead watering.



Early blight of tomatoes

The cause is the fungus *Alternaria solani*, which also attacks potatoes, eggplants and peppers. It affects fruit, stems and leaves, leading to brown spots, generally on the older leaves. The spots can get to about ½ inch in diameter and may look target-like with a yellowish halo. Leaves die and fruit may then be subject to sunscald. On stems, blight appears as dark or black sunken spots. Infected plants are weak and don't produce well.

Control

- Test soil and correct problems. Healthy plants can survive blight. Choose resistant species when possible.
- Rotate crops, planting tomatoes only every 3 or 4 years in any location. Other members of the same solanaceous family: potatoes, eggplants and peppers, should be a part of this rotation, so no tomatoes where any of them were planted.
- Place plants far enough apart to allow good air circulation.
- Use drip irrigation not sprinklers or other overhead irrigation.
- Mulch early. Straw, newspapers or other mulches that prevent soil water splash up on plants work best.
- Remove diseased plants and all plants and debris at the end of the season.

References, further reading and more photos

Squash bugs

<http://caldwell.ces.ncsu.edu/2013/06/squash-bugs-active-now/>

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Early blight on squash

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[PlantID=293&PlantTypeID=9](http://urbanext.illinois.edu/hortanswers/detailProblem.cfm?PathogenID=138)

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Early blight on tomatoes

<http://burke.ces.ncsu.edu/2013/06/its-time-for-early-blight/?src=rss>

<http://plantpathology.ces.ncsu.edu/2013/07/pest-news-late-blight-found-in-north-carolina/>

<http://caldwell.ces.ncsu.edu/2013/05/preventing-blight-in-the-garden>

Trellising



When I ask gardeners about trellising, I usually get two reactions: The first is a complete blank stare followed by a statement of, 'It is too hard.' The second is "yes," followed by the usual description of a frame with vertical strings attached. In my own garden, I use and enjoy many different types of trellising.

Trellising is simply building a structure that supports the growth of vines or plants. It could be latticework, a gazebo, or an arch. Trellising also refers to the training of a plant growing on a form or structure. Trellis comes from the Latin root *trillicius* meaning woven with three threads.



Figure 1

I do use the simple frame with string/netting (Figure 1) for my peas and beans. However, I also use another simple trellising method, bamboo in a teepee shape (Figure 2). This works very well for beans and peas, while providing a shady area in the middle to plant some lettuce or spinach in the summer.



Figure 2

I do not limit my trellising to just my garden plants. My grandmother instilled in me a love for the 'dreaded' English Ivy, *Hedra helix*. She was a master at making



Figure 3

English Ivy topiaries. I do not do the topiaries, but I can find a good use for the English Ivy in my landscape. I have a very sunny backyard and I wanted to build a shelter for my canine friends. Using the concept that trellising is simply a structure for vines to grow on, I made a frame from recycled wood pallets and planted 1 (one) English Ivy around the structure. Three years later, I have an eco-friendly doghouse.

However, the best part of trellising is it does not have to be vertical. You can angle the trellis to provide shade. An 'A' frame is a prime example (Figure 4).



Figure 4

Another way is to create an arch or an angled support (Fig. 5). All of these ways provide shade through the summer months allowing the gardener to plant some cooler season plants underneath the support.



Figure 5

For the more adventurous gardener, you can try trellising watermelon plants or pumpkins. By doing this, you can save space, grow the fruit in containers, and still enjoy the variety of plants to grow in the garden.

Trellising is really only limited by your imagination. Therefore, if you have limited space let your imagination wander and dream up all the possibilities that could be available to you.

Susan Tanzer, EMGV



Growing the Green Way—Spring 2014

Class is just about to end for Spring 2014 (but the Fall classes are already scheduled!). You might be able to catch the Culinary Herbs presentation on the 17th or the 21st. Please remember to call 375-5876 to register.

EASY TO GROW CULINARY HERBS

Some of us already grow basil, oregano, and thyme - but what about stevia, sage, or lemon grass? By knowing the characteristics of the plants, you can have fresh herbs to use year round. Come join us to talk about being successful at growing the herbs you want to use in your kitchen.

Sunday, April 13 th	4:00 pm	Greensboro Arboretum
Tuesday, April 15 th	6:30 pm	Cooperative Extension
Thursday, April 17 th	6:30 pm	Bur-Mil Wildlife Education Center
Monday, April 21 st	6:30 pm	Kathleen Clay Edwards Library



2014: Year of the Cucumber



Introduction

The cucumber is one of the top five most popular garden vegetables. Cucumbers are very adaptable. They have been grown in space and a mile underground in a nickel mine. Very easy to grow from seed, cucumbers deserve praise and a place in the modern garden.

History

The cucumber is native to India, where it has been grown for almost 3000 years. Excavation at the Spirit Cave site on the Burma-Thailand frontier in 1970 uncovered seeds of cucumbers, beans, and water chestnuts that, according to radiocarbon dating, had been consumed in 9750 B.C.

Although the first wild cucumbers have never been fully identified, evidence seems to point to *C. hardwickii*, an unappetizingly small and very bitter native of the Himalayas. Bitterness, a plague to cucumber lovers throughout the ages, seems to be a natural protective device derived from its wild ancestors. That bitterness comes from cucurbitacins, a terpene derivative, that repels certain insects as well as some humans.

In ancient Egypt, cucumbers were cultivated as a common food and the populace savored them dipped in brine. They also drank “cucumber water” as a weak liquor. National Garden Bureau research found one Egyptian “recipe” directed the cutting of a hole in the ripe fruit, then the stirring of the insides with a stick. The hole was then plugged and the fruit buried in the earth for several days. When dug up, “the pulp converted to an agreeable liquid.”

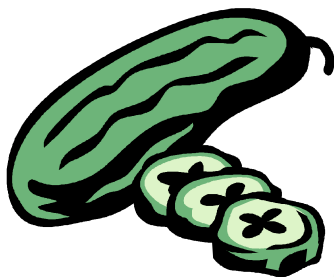
On the northern shores of the Mediterranean, the Greeks also cultivated cucumbers, calling them sikous (sikua, in modern Greek). However, the vegetable was not one of their favorite foods. Perhaps they viewed the cucumber as primarily water – 96% of it is. Yet it was the cucumber’s water retentive ability that earned it an undisputed reputation for never losing its cool. Early caravans often carried supplies of cucumbers to quench their thirst on long journeys. Farther west, the Romans served cucumbers raw or boiled with oil, vinegar and honey. The Emperor Tiberius commanded cukes on his table every day. His gardeners forced hothouse cucumbers in portable containers which they moved from place to place to follow the sunlight to provide out of season for the Royal household.

Later, during the 1st Century, A.D., Roman gardeners fashioned cucumber frames and covered them with glazed, translucent panes of silicates. The mica pans diffused light and the Romans used them as we now use cold frames. The cucumber appeared in England during the reign of Henry VIII when Catherine of Aragon demanded them for her Spanish salads. By the time Elizabeth I ascended the English throne, five distinct varieties were grown: Common, Turkish, Adder, Pear and Spanish.

Cucumbers arrived in America with Columbus. He grew them in an experimental garden in 1493. In 1539, De Soto found the cucumbers grown in Florida better than those grown in Spain. By 1806 eight varieties of cucumbers would be found growing in America’s colonial gardens.

Physicians of the 17th Century prescribed placing fever patients on a bed of cucumbers so they would become “cool, as a cucumber.” John Gerard wrote in *The Herbal* that cucumbers eaten three times a day in “otemeal porridge,” would heal red noses and pimples of the face. He cautioned housewives, “those cucumbers must be chosen which are green...for when they be ripe and yellow,





they be unfit to be eaten.” Sound advice even now! Dr. Samuel Johnson was repulsed by cucumbers and wrote “they should be well sliced, and dressed with pepper and vinegar, then thrown out...”

The most famous pickled cucumber of the 19th Century was the one first preserved by H.J. Heinz of Pittsburgh. Heinz began bottling pickles in 1870 as a tasty addition to the monotonous diet of meat and potatoes eaten by most Americans. His idea was not only an instant success, it also spurred interest in cucumber hybridization.

In recent history, cucumbers were grown in space by Russian cosmonauts aboard *Salut-7* during a 211 day endurance flight. Cucumbers have been cultivated successfully nearly one mile beneath the earth’s surface in an Ontario nickel mine during a food project sponsored by the Canadian government.

Proving its adaptability to many climates and cultures from native India to space flights, the cucumber grows and produces fruit in many varying conditions. Chosen by the National Garden Bureau for special recognition in 2014, the cucumber is easily grown by beginning and expert gardeners.

Nomenclature

Home gardeners refer to “cukes,” but botanists term this crunchy vegetable *Cucumis sativus*, a branch of the family *Cucurbitaceae*. There are over 500 cousins in this extended family, including squash, pumpkin, melon and gourds. All are characterized by trailing vines with rough, hairy leaves. Cucumbers have yellow flowers that bear fruit which may be globular, oblong or cylindrical. Most cucumbers are a dark green color and have prickly skin when immature but look for the white, yellow and brown varieties also.

Classification

Cucumbers are placed in two major categories, either slicing or pickling, based on use. They can be further classified by plant habit, either bush or vining. Using the knowledge of these major categories, gardeners can choose the best type of cuke for their garden.

Slicing Cucumbers

The majority of cucumbers fit into this category. They are to be eaten fresh from the garden. The fruit are green, elongated and slightly tapered on the ends.

Depending upon variety, the mature length can be 4 to 12 inches.

Additional slicing types are:

Mideastern- This type originated in Israel. It differs from other cucumbers because it is burpless and has a smoother, thinner skin. This type is also called *beit alpha*.

Oriental- This cucumber from Asia has a crispy, sweet taste, and thin skin with some spines. It is harvested at 10 to 12 inches and often grown on trellises so that it forms straight, high quality fruit.

Greenhouse- This group was primarily bred in Europe, specifically for forcing in greenhouses. Used by commercial greenhouse growers, they are not normally recommended for the home garden.

Pickling Cucumbers

This class is used for preserving as pickles. Most pickling varieties are versatile, usable at all stages of growth. Pick cukes at 1 inch or up to 5 inches for a large dill pickle. Some varieties can be used fresh as a slicing type.

Gherkin pickles are immature pickling cucumbers. They are small, usually only an inch or two in length. They are also known for their numerous spines and warty skin.





Other types of cucumbers include Lemon and Armenian (yard long). The Lemon is a round cuke about the size of a lemon with a cream color skin. Immature fruit are suitable for pickling; mature fruit can be sliced and eaten fresh. The Armenian cucumber is actually an elongated cantaloupe (*Cucumis melo*), best if cooked like a summer squash or eaten fresh when immature. It produces ribbed, pale striped fruit that, if left on the vine can grow to 3 feet. It is certainly a novelty; harvest at 1 foot for best eating quality.

Burpless, or bitter free?

Most cucumbers contain cucurbitacins which can be present in the fruit. If present in the fruit, some people consider the taste bitter. Associated with the bitter taste is a social, if not a digestive problem, known as a burp.

In the middle of this century, Oriental cucumbers were introduced to North America as burpless. The Sakata Seed Company, members of the National Garden Bureau, introduced burpless cucumbers.

The fruit was longer and narrower with thinner green skin when compared to North American slicing types. Since the bitterness was associated with the burp, the new types were described as burpless and bitter free. Both terms are used to describe the same quality in cucumber varieties.

However, taste is subjective. The taste of one cucumber can easily be bitter to one person and bitter free to another. To complicate matters more, a cucumber's taste can change. When grown under environmental stress such as high temperatures and inadequate water, a fruit can become increasingly bitter. To remove most of the bitterness, cut off the 1 inch of fruit closest to the stem and peel off the skin, if necessary. Some of the newer varieties contain a gene that eliminates all bitterness from the plant and fruit so that the fruit remains bitter free even under stress.

Sex and a Choice of Bloomers

Some plants produce two different kinds of flowers on the same plant—male and female. This is true of squash, gourds, cukes and watermelons. The sex of the flower is important since only female flowers produce the fruit. Male flowers produce pollen. You can easily recognize a female flower, because it has an ovary - looking like a tiny cucumber at its base when it blooms. Male flowers have no ovary: the flower is attached directly to a short stalk. A cucumber plant might be flowering prolifically, yet not set fruit since the flowers may be all male.

Gardeners are offered a choice of the male/female flowers on cucumbers they wish to grow. The choices are monoecious and gynoecious.

Monoecious [muh-nee-shuhs] cucumbers produce male and female flowers on the same plant. All open pollinated cultivars are monoecious. Some hybrids are monoecious. The advantage to the gardener is that the pollen and the fruit producing flowers are on the same vine. The gardener can sit back and let the bees pollinate. The disadvantage is usually a later, slower production of fruit.

Gynoecious cucumbers produce predominantly all female flowers. All flowers have the potential to bear fruit. The advantage is a higher and more concentrated yield. The disadvantage is that there must be a plant nearby which produces male flowers to pollinate the female flowers. When you choose a gynoecious cucumber, there will be pollinator seeds in the seed packet. The pollinator plants produce the pollen for the "all female" plants. Remember that stress during the growing period can create gynoecious varieties to produce male flowers.



male flower



female flower



In cooler or rainy weather, bees may not be present to carry out pollination in monoecious and gynoecious cucumbers. If so, and your plant produces a female flower, simply insert a cotton swab into one of the male flowers and twirl it around, which will coat it with pollen, then dab the pollen onto the stigma (extruding central part) of the female bloom. This will ensure its pollination.

Another solution is for a gardener to plant gynoecious cucumbers that are parthenocarpic. A parthenocarpic cucumber produces only female flowers that do not need pollen to set fruit. This results in higher yields. The plants can be grown under row covers to protect them from insects and still produce fruit. The disadvantage is that if the female flowers are pollinated, the fruit can be misshapen with a lump or curve. To minimize cross pollination, gardeners could grow only parthenocarpic plants in their garden.

Each type of cucumber has advantages and disadvantages. The choice is left for the gardener, based on his or her desired yield and use.

How to Grow

Cucumbers like to bask in the sun, so choosing a site in full sun is of prime consideration. Soil should be light, fertile and well-drained. Amending the soil with plenty of compost or well-rotted manure will ensure good yields. Check soil drainage before planting, as a soggy garden will promote disease and cut down production.

How much space is allotted to the cucumber patch depends on the variety chosen. Standard types may spread 4 to 6 feet; grow them 4 to 5 feet apart. The restricted vines of dwarf and bush varieties require much less space; some as little as 2 square feet.

Seeds should be sown when the soil has warmed up to 70°F. Sow a seed every 6 inches, pushing it into the soil to a depth of 1 inch. Cover with light soil or sand, firm well and keep moist. Seedlings should emerge in about a week. When the plants are 2 inches high, thin them to 1 foot apart. An alternative method is to plant in a series of hills 4 to 5 feet apart. A hill is simply a mound of soil 1 foot in diameter. Start by sowing four or five seeds, then thin to three per hill.

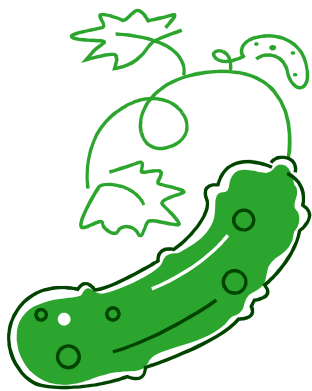
In short summer areas, gardeners may wish to get a jump on the season by starting cucumbers indoors. Plant seeds in individual peat pots or a similar container about two or three weeks before the last frost. Harden the seedlings off for several days before planting out in the garden.

Cucumbers are among the thirstiest of vegetables. The National Garden Bureau recommends long, deep waterings rather than frequent sprinklings. Mulching will repay the gardener's efforts threefold. Moisture is conserved, soil temperature remains uniform and weed growth is deterred. Once the seedlings have grown a few inches, put down a 3 to 4 inch layer of organic mulch or cover. Cucumbers are heavy feeders. A side dressing of 5-10-10 fertilizer at the time of planting and once a month thereafter is sufficient.



Vertical Culture

It's true that cucumbers are greedy for space, but they needn't dominate the entire vegetable plot. They adapt well to vertical growing. Many types of support materials can be used for training cukes. A lattice, trellis or "A" frame with netting is simple to construct and easy to incorporate into a garden design. Use a structure at least 6 feet high and place it a few inches off the ground to allow for air movement. Help the young cucumber plants find the structure by placing their tendrils around the support and tying them. Continue training vines up the support as needed.



Growing cucumbers vertically produces straight, blue ribbon quality cucumbers.

Container Growing

City dwellers can easily raise cucumbers on a patio, deck or in hanging baskets. The bush slicing varieties produce full-size fruits and are ideal for container gardening. Wooden tubs, half wine barrels or any large container with drainage holes can be used. The standard cultural advice still applies: lightweight soil mix, fertilizer and plenty of water. why not tuck a few cascading nasturtiums in the basket with the cucumber to provide food for the eye and palate both?

Extended Seasons

Cucumbers adapt well to growing in greenhouses and cold frames. Since they are short seasoned you can extend yours by sowing in the fall in a protected structure and enjoy fresh fruit in winter. Keep in mind you can also sow early to have cucumbers before the last frost date.

Harvest

There are three rules for harvesting cucumbers-pick, pick and pick! If mature fruit is left on the vine, the plant figures it has finished production and will stop setting new fruit. Slicers are mature when 6-8 inches long; the larger slicing varieties should be picked before they are 10 inches long. Pickling varieties are harvested in between 1-4 inches.

Most cucumbers reach maturity in 50 to 65 days. The fruit will be firm to the touch and the skin will have a uniform dark green color. To avoid damage to the vine, cut or clip the cuke from the plant rather than twisting or pulling it. Refrigerate as soon as possible for the freshest flavor.

Conclusion

Cucumbers are not only easy to grow but delicious because of the fresh, crisp and cool flesh. Enjoy the fruits of your harvest in salads and salsas, on sandwiches or made into pickles. No matter how you slice them, cucumbers are good tasting as well as good for you.

References:

http://www.ngb.org/year_of/index.cfm?YOID=36





Mixed Greens Community Garden

Wow! What a winter it has been. We did have a super evening at our garden kick off dinner on February 25. We had a super group of people in attendance to enjoy food, fellowship and a question and answer time.

Needless to say, our first garden workdays and most of the spring planting people were planning to accomplish were cancelled due to the multiple snow and ice events. A few of us were able to get some peas, lettuces and potatoes planted but most of us still have untilled garden beds. At this point, if one has not planted, it is just time to move onto planning for the summer garden. We want to caution you though not to plant summer crops too early as the weather has just been crazy. A safe date for planting peppers, tomatoes, and other transplants would be May 1. Seed crops could go in a little earlier after April 15, but do be prepared for plant loss if a severe frost occurs.

Information on workdays has been posted at each garden gate. With our ever changing weather patterns we have had to cancel or postpone several workdays. We will keep current information at the garden gates during the spring planting season.

We wish all of you a great summer gardening season complete with just the right amount of rain and sunshine!

LeAnn Glessner, Guilford County EMGV



As you garden this year, please remember to Share the Harvest. We have a collection site at the Ag Center, or you can go to <http://www.sharetheharvestguilfordcounty.org/> to find a drop-off spot near you and your garden. The Triad still has roughly one in five people who need food, and you can help!

See you in the garden!!!



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