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SP291-M-Planning the Vegetable Garden

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UT Extension
SP291-M

Vegetables

Planning the Vegetable Garden

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Plant & Soil Science

Why Plan?

A garden plan will save time, space, work and money. Yields will be increased, as will the length of the harvest season. Best of all, you will be able to harvest the amount of high-quality garden produce you desire at the time you choose.

Evaluate Past Gardens

Begin to plan your next garden by considering your past gardens. What varieties did you like well or not at all? Would you like to extend the harvest season or increase or decrease the amount of your harvest? Would several small staggered plantings be desirable? Did you try something new last year that you want to include again this year? Is there something new that you want to try this year? Has your family increased or decreased in size? Do you want to preserve more or less food this year?

Select a Site

The ideal garden soil is deep, fertile, well-drained and medium-textured. Such soils are usually dark-colored. Fine-textured, clay soils are difficult to work and frequently form clods or crust as they dry, especially if they were turned while wet. Very sandy soils do not retain moisture or nutrients well. Poorly drained soils may be difficult to plant at recommended planting dates, may be very low in nutrients or high in acidity and may encourage plant diseases.

Full sunlight produces the most productive gardens. Six hours of daily sunlight are probably the minimum for good production. Trees and hedges should be avoided, as they not only reduce sunlight but also compete with vegetables for water and nutrients.

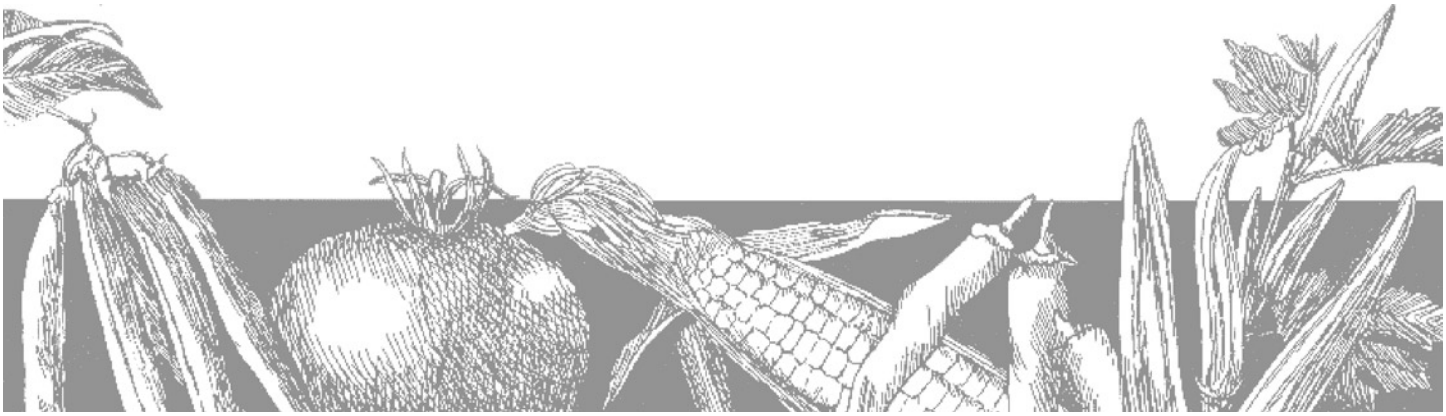
Level sites are less subject to erosion than sloping sites, but a slight slope toward the south hastens warming and drying of the soil early in the spring. A slightly sloping site will also have better air drainage and less frost damage than a level site or an exposed hilltop.

Gardens near the house are more accessible. They are also easier to care for and to protect. There are generally fewer wild animals near the house and water for irrigation will be available. It may be necessary to fence dogs, farm animals and children out of the garden. Frequent harvests are also easier and more likely when gardens are near the house.

Lastly, garden sites must correspond in size to the amount of garden produce desired. Intensive cultivation techniques can only partially substitute for a small site.

Soil Test

A soil test is the only accurate method of determining how much lime and fertilizer to apply to gardens. If too little fertilizer is applied, plants will be starved and yield and quality of vegetables will be reduced. Too much fertilizer will waste both fertilizer and money, as plants will be unable to fully utilize it. Too much fertilizer can also injure or kill plants.



Acid soils resulting from a lack of lime can also prevent nutrients from being taken up. Fertilization of acid soils can thus be ineffective. A soil test is a relatively inexpensive way of determining how much, if any, lime is required and obtaining a fertilizer recommendation at the same time.

Specific information concerning how to sample soil for a soil test and how to treat the sample after collection is available at all county Extension offices. More information is also contained in Extension SP 291-C, **Soil Preparation for Vegetable Gardens**.

Vegetable Selection

After an appropriate site is located and evaluated, decide which vegetables to grow. Consider the likes and dislikes of your family. Consider also the space requirements of the vegetable. Winter squash and pumpkins require considerable space and may not be practical for small gardens. Corn requires quite a bit of space and bears only once. If space is limited, it might be better to plant vegetables such as summer squash, peppers and tomatoes rather than corn. All of these bear large amounts of fruit over an extended harvest period in a small area.

Consider also your philosophy about using agricultural chemicals in the garden. Some vegetables, such as okra, will nearly always produce a crop with or without chemical pest control. Others, such as cabbage and broccoli, are generally heavily infested by insect pests. Organic gardeners and others who wish to avoid the use of agricultural chemicals may wish to grow more pest-resistant crops such as okra and few crops highly susceptible to insects and diseases.

Variety Selection

Many vegetable varieties have been observed or tested in gardens across Tennessee. The best of these are recommended in SP 291-O, **Guide to Spring-Planted, Cool-Season Vegetables**, SP 291-P, **Guide to Warm-Season Vegetables** and SP 291-G, **Fall Vegetable Gardens**. There are also heirloom varieties, All-American varieties and family or regional favorites. All of these have a record of performing well locally or over broad, geographic areas of Tennessee. Grow recommended varieties or varieties known to perform well whenever possible.

Disease-resistant varieties tend to produce well with less chemical input. Many disease-resistant varieties are listed in SP 277-K, **Disease Resistance in Recommended Vegetables for Home Gardens**.

Hybrid varieties tend to be more disease-resistant than non-hybrid varieties. Hybrid varieties also tend to have high quality and yields. Do not save seed of hybrid varieties, as the plants grown from this seed will not be true to the desired variety.

Small gardens may benefit from compact varieties designed to grow in small spaces. These are widely available and frequently produce more in less space.

Varieties that climb or that are adapted to plant supports such as stakes or cages are also well adapted to small gardens.

Plan for Rotation

Closely related plants can be grouped into families. Families of plants tend to be susceptible to many of the same insect, disease and nematode problems. By grouping vegetable plants into families and moving each family to a different location within the garden each year, many insect and disease problems can be reduced. Plan to group your vegetables by families and to rotate families to different areas of the garden each year. See Table 1 for suggested vegetable groups for rotation.

Sketch a Plan

Finally, if you really want to be organized, make a scale drawing of your garden. This is undoubtedly the greatest planning aid one can have.

Table 1: Examples of Crop Groupings to Reduce Diseases[1]

Group	Crop	Disease(s) Reduced
Group A	Cantaloupe Cucumber Pumpkin Squash Watermelon	Microdochium Blight Fusarium Wilt Gummy stem blight Anthracnose Scab, Belly Rot Angular leaf spot Nematodes
Group B	Brussels sprouts Cabbage Cauliflower Collards Lettuce Mustard Radish Rutabaga Spinach Swiss chard Turnip	Black leg Club root Black rot
Group C	Eggplant Irish potato Okra Pepper Tomato	Bacterial canker Early blight Nematodes Potato scab
Group D	Beet Carrot Garlic Shallot Sweet Potato	Scurf Black rot Wilt Nematodes
Group E	Sweet corn	Smut
Group F	Bean Cowpea Peas	Fusarium root rot Anthracnose Nematodes

[1]Rotate to a crop in a different group when planting successive crops in the same location in the garden.

Begin with a scale drawing of the site. Graph paper makes the drawing easy to construct and to work with, but any kind of paper will do. Divide the drawing into two sections. Plan to plant cool-season vegetables in one section and warm-season vegetables in the other. The cool-season section will be harvested by mid-summer and can be replanted for a fall garden. Alternate the warm- and cool-season sections each year to reduce plant disease.

Sketch and label rows of each vegetable on your plan using the row spacings suggested in SP 291-O, **Guide to Spring-Planted, Cool-Season Vegetables** and SP 291-P, **Guide to Warm-Season Vegetables**. Arrange the vegetables so tall vegetables will not shade shorter ones. Write the variety to be planted, planting or transplanting date and amount of seed required on the planting plan. Be sure to plan for staggered plantings to extend the season.

With a plan, you can plant an efficient garden when planting time arrives. Note on your plan or in a garden calendar the dates when you actually planted, special procedures used and how acceptable the varieties were. This information will be used in planning your next garden. Figure 1 illustrates a sample garden plan.

Figure 1: A sample garden plan

	36"	1 pkt. Clemson Spineless Okra planted in May	
	108"	1/4 lb. Silver Queen Sweet Corn planted in 3 half rows in late April 30” apart.	1/4 lb. Silver Queen Sweet Corn planted in 3 half rows in May.
	48"	11 Better Boy Tomatoes transplated in April--staked	11 Better Boy tomatoes set from pre-rooted suckers in June--staked
	60"	1 pkt. Butter Bar Summer Squash planted in May	1 pkt. Burpless Cucumber planted in May
	36"	10 Black Beauty Eggplant transplanted in May	6 California Wonder and 6 Hungarian Pepper set in May
	36"	2 oz. Provider Snapbeans planted in April in 2 rows 10” apart.	2 oz. Roma II Snapbeans planted in May
	36"	1/4 lb. Fordhook 242 Bush Lima Beans planted in May	
55ft.	36"	2 oz. Pinkeye Purple Hull Peas planted in May	
	48"	35 Centennial Sweet Potatoes set in May	
	36"	30 Stonehead Cabbage transplants set in March	
	36"	30 Premium Crop Broccoli transplants set in late March	
	36"	30 Snow Crown Cauliflower transplants set in late March	
	36"	2 pkt. Detroit Dark Red Beets in double row planted in March	1 pkt. Vates Collards planted in March
	24"	2 pkt. Danvers Carrots in double row 4” apart planted in March	1 pkt. Cherry Bell Radish planted in March
	24"	1 pkt. Just Right Turnip planted in March	1 pkt. Simpson Lettuce planted in March
	24"	200 Danvers Onion sets 3” apart set in March	

45 ft.

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