Home Vegetable Gardening - Getting started

Additional sources of information on specific topics are referenced as Hyperlinks listed on the last page

Garden Needs
- Sunny location with a minimum of 5-6 hours of sunlight daily, preferably 8-10
- Access to a water source: hose, rain barrel or pond, or other water catchment system
- Quality, well-drained soil or planting medium
- Convenient site, where you will be able to check on it frequently (close to the house)

Growing Seasons
- Spring, for Cool Season crops planted early, well before the last average frost free date (April 1-10)
- Summer, for Warm Season crops planted after all frost is past, grown until first frosts in fall
- Fall, for Cool Season crops established prior to frost but that tolerate moderate to freezing temperatures
- Winter, for Cold Hardy crops planted in fall but live through the winter such as kale, collards, turnip greens

Plant Selections
See Vegetable Variety Guide on page 3.
- Herbs – Many are perennials that can be grown in containers (easily moved and great for small spaces), or planted in permanent garden beds. Others are annuals which must be planted each year from seed or transplanted.
- Vegetables – Can be grown in containers, raised beds (easy to establish and removable) or in garden soil. Choose plants based on the season, your tastes and space available. Asparagus is a perennial vegetable and needs a separate garden bed where it can grow and spread for many years.
  - Vegetables that do well in containers include: beans, beets, carrots, collards, cucumber, eggplant, garlic, kale, leeks, lettuce, mustard greens, peas, peppers, potatoes, spinach, squash, swiss chard, tomatoes and many others. Container Gardening Planting Calendar

Both containers and raised beds are a good choice for new gardeners as they are easy to establish, have few weeds, and take up little space. The larger the mature plant, the larger the container needs to be.

Soil Preparation
- For Containers - Purchase a good quality premixed potting soil (without polyacrylamides) or make your own combining equal parts of compost, shredded pine bark mulch, and vermiculite. Homemade mixes should be tested for soil pH and fertility. Container soil will dry quickly, requiring daily watering.
- In Raised Bed or In Ground - Amend your purchased or in ground soil with organic material, either homemade compost, purchased certified compost, leaf or pine bark mulch. After the soil is mixed with organic material, have a soil test done to determine the pH and nutrient content of your soil. Good garden soil should have a pH of 6-6.5. Nitrogen is needed annually, so choose an organic source (blood meal, feather meal) or non-organic source (ammonium nitrate or ammonium sulfate). If other nutrients are recommended by the soil test, you can use a mixed fertilizer which contains nitrogen, phosphorus and potassium (10-10-10 for example).

Supplies
- Appropriately sized containers with drainage holes for container gardens; wood, plastic or stone siding material for raised beds; supports such as a trellis or fence for vigorous climbing plants like cucumbers or beans, and stakes for tomatoes
- Means of watering: hose, watering can or jug, irrigation (water soil, not leaves!)
- Gardening Tools: soil knife, pruners/clippers, trowel, small pick for planting and weeding, shovel, pitch fork, rake, sprayer, wheelbarrow and tiller for larger areas (optional)
- Soil amendments: fertilizer, lime, mulch, compost
- Plants: seeds or transplants (grow your own from seed or purchase transplants)

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Garden Design
- Plan for the size of plant when mature so you don’t shade out other plants – bean poles are tall!
- Rotate crop placement from year to year.
- Consider “Succession Planting” to extend each growing season by:
  o Planting at 2-3 week intervals, prolonging your harvest.
  o Using newly vacated spots to replant for a longer growing and harvesting season.
- Plan to grow crops in each of our 3 main seasons.

Seeds or Transplants
See Vegetable Variety Guide on page 3. (Seed/Plant)

- Some seeds can be sown directly into the garden. Plant seed according to package directions.
  Cool Season - arugula, beets, carrots, chinese cabbage, cilantro, kale, lettuces, mustard, peas, radishes, spinach, swiss chard
  Warm Season - basil, beans, eggplants, peppers, squashes, tomatoes
- To grow transplants from seed – plant seed according to seed packet direction into a small pot, or peat pot indoors or in a greenhouse. Plant indoors 6-8 weeks before transplanting date allowing time for transplants to be “hardened off” and ready by planting time. Hardening off ensures the transplant will be strong enough to take full outdoor sun. Slowly introduce the transplants into full sun, each day over a couple weeks’ time.
- After a hardening off period, plant transplants gently into moist, loose soil into the garden. If in a peat pot, make sure the pot is completely covered with soil so it doesn’t wick water away and dry out.
- Seeds can be less expensive than using transplants but this will depend on the size of your garden.
- Purchase seed packets at local stores or order from seed catalogs.
- Purchase transplants at your local farmers market, garden center or other stores that sell plants.

Garden Care
- Water new seeds and transplants every day until established, mature plants every two or three days
- Fertilize to maintain enough nitrogen
- Mulch to maintain moisture and control weeds (grass clippings, wheat straw, pine bark mulch, newspaper)
- Extend the growing season by protecting crops from extreme hot and cold; use mulch to keep soil temperatures moderated, cover plants during freezing temperatures and shade from hot sun. **Season Extenders**

Pest and Disease Management
- Focus on reducing plant stress first! Give them adequate sun, water, and fertility
- Plant flowering plants that support beneficial insects to help control pests and aid pollination.
- Plant disease or pest resistant seeds or plants, i.e. VFN resistant tomatoes and hardy, disease free plants
- Concentrate on watering the soil and root area, not the foliage, to discourage disease.
- Examine plants for critter or insect damage or disease, to catch early.
- Use stake, cage or trellis to keep plants from toppling and remove dead/diseased plants to trash.
- Mulch with leaves, shredded wood, or pine needles to reduce weeds. Remove growing weeds - don’t let them go to seed!
- Practice crop rotation - Pests and diseases can live in the soil near previous host plant. By moving the host plant to a new area each year it reduces the pests’ ability to reproduce and disease build-up.
- Become educated and know what to look for. Specific plants have known problems: squash often get vine borers; broccoli, collards and cabbages get cabbage loopers; melons can be prone to fungus, etc.
- Consider using products with the least toxicity. Some examples of organic control are: Bt, Diatomaceous Earth, Horticultural Oils, and Insecticidal Soap. Be aware that many products that address your problem may also harm non-targeted, beneficial insects and may be toxic to you, your pets or the environment. Read labels!
<table>
<thead>
<tr>
<th>Vegetable</th>
<th>Variety</th>
<th>Planting Date</th>
<th>Seed/Plant</th>
<th>Late Winter/Early Spring</th>
<th>Fall</th>
<th>Days to Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cool Season Crops - Spring and Fall Planting - Not harmed by frost</strong></td>
<td></td>
<td></td>
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<tr>
<td>Asparagus</td>
<td>Jersey Giant, Jersey King, Jersey Supreme</td>
<td>P</td>
<td>2/15–3/31</td>
<td>75-95</td>
<td>2 years</td>
<td></td>
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<tr>
<td>Beets</td>
<td>Ruby Queen, Red Ace, Bull’s Blood (for greens)</td>
<td>S</td>
<td>3/1-4/15</td>
<td>8/1-9/15</td>
<td>55-60</td>
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<tr>
<td>Broccoli</td>
<td>Marathon, Packman, Premium Crop, Arcadia</td>
<td>P</td>
<td>2/15-4/15</td>
<td>8/1-9/15</td>
<td>70-80</td>
<td></td>
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<tr>
<td>Brussels sprouts</td>
<td>Long Island Improved, Jade Cross Hybrid</td>
<td>P</td>
<td>2/15–7/15</td>
<td>85-95</td>
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<td></td>
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<tr>
<td>Cabbage</td>
<td>Round Dutch, Early Jersey Wakefield, Red Rookie (red)</td>
<td>P</td>
<td>2/15-4/15</td>
<td>8/1-9/15</td>
<td>70-80</td>
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<tr>
<td>Cabbage, Chinese</td>
<td>Pak Choi, Bok Choi</td>
<td>S/P</td>
<td>3/1-4/1</td>
<td>8/1-10/1</td>
<td>45-80</td>
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<tr>
<td>Carrots</td>
<td>Danvers Half Long, Sugar Snax 54, Thumbelina</td>
<td>S</td>
<td>2/15–3/31</td>
<td>6/15-8/15</td>
<td>75-95</td>
<td></td>
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<tr>
<td>Cauliflower</td>
<td>Early Snowball, Snow Crown</td>
<td>S</td>
<td>2/15–4/15</td>
<td>8/1-9/15</td>
<td>55-65</td>
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<tr>
<td>Collards</td>
<td>Vates, Morris Heading, Top Bunch, Blue Max</td>
<td>S/P</td>
<td>2/15–4/15</td>
<td>8/1-9/15</td>
<td>60-100</td>
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<tr>
<td>Kale</td>
<td>Dwarf Curled Scotch, Siberian, Vates, Blue Knight, Lacinato</td>
<td>S/P</td>
<td>2/15–6/30</td>
<td>8/1-9/15</td>
<td>40-60</td>
<td></td>
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<tr>
<td>Kohlrabi</td>
<td>Early Purple Vienna, Grand Duke</td>
<td>S</td>
<td>2/15-6/30</td>
<td>8/1–9/1</td>
<td>50-60</td>
<td></td>
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<tr>
<td>Lettuce (head)</td>
<td>Ithaca, Mighty Joe, Maverick</td>
<td>S/P</td>
<td>2/1–4/10</td>
<td>8/25–9/25</td>
<td>70-85</td>
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<tr>
<td>Lettuce (leaf)</td>
<td>Grand Rapids, Salad Bowl, Buttercrown, Red Sails, Romaine</td>
<td>S/P</td>
<td>2/1-4/20</td>
<td>8/25–10/1</td>
<td>40-50</td>
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<tr>
<td>Mustard</td>
<td>Southern Giant Curled, Tendersgreen</td>
<td>S/P</td>
<td>2/15–6/30</td>
<td>8/1–9/15</td>
<td>30-45</td>
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<tr>
<td>Onions (seed)</td>
<td>Texas Grano 1015, Granex 33</td>
<td>S</td>
<td>8/1-6/15</td>
<td>9/15-10/31</td>
<td>14-5 mos.</td>
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<tr>
<td>Onions (sets or plants)</td>
<td>Texas Early Grano, Hi Ball, Scallions</td>
<td>P</td>
<td>10/1-3/1</td>
<td>60-80</td>
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<tr>
<td>Peas (edible-podded)</td>
<td>Oregon Sugar Pod II, Sugar Snap, Sugar Bon</td>
<td>S</td>
<td>2/15-4/15</td>
<td>8/1-9/30</td>
<td>60-70</td>
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<tr>
<td>Peas, garden</td>
<td>Green Arrow, Tall Telephone</td>
<td>S</td>
<td>2/15–4/15</td>
<td>8/1-9/30</td>
<td>65-70</td>
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<tr>
<td>Potatoes, Irish</td>
<td>Kennebec, Red Pontiac, Superior, Yukon Gold</td>
<td>S</td>
<td>2/15-4/1</td>
<td>95-120</td>
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<tr>
<td>Radish, Diakon</td>
<td>April Cross, Everest</td>
<td>S</td>
<td>2/15–6/30</td>
<td>8/1–9/15</td>
<td>60-75</td>
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<tr>
<td>Rutabagas</td>
<td>American Purple Top, Laurentian</td>
<td>S</td>
<td>2/15-4/15</td>
<td>8/1-9/30</td>
<td>70-80</td>
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<tr>
<td>Spinach</td>
<td>Early Hybrid 7, Bloomsdale Long Standing, Tyee</td>
<td>S</td>
<td>2/15–6/30</td>
<td>8/1–9/15</td>
<td>50-60</td>
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<tr>
<td>Swiss chard</td>
<td>Lucullus, Rhubarb Chard, Argentata</td>
<td>S/P</td>
<td>3/15–5/1</td>
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<tr>
<td>Turnips</td>
<td>Purple Top White Globe, Tokyo Cross, White Egg</td>
<td>S</td>
<td>2/15–6/30</td>
<td>8/1-31</td>
<td>55-60</td>
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<tr>
<td><strong>Warm Season Crops - Plant after Frost Free Date</strong></td>
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<td>Beans, Lima (pole)</td>
<td>King of the Garden, Carolina Sieva</td>
<td>S</td>
<td>4/10–6/15</td>
<td>7/15-8/1</td>
<td>75-95</td>
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<tr>
<td>Beans, Snap (pole)</td>
<td>Kentucky Wonder 191, Stringless Blue Lake, Romano (flat)</td>
<td>S</td>
<td>3/20-6/15</td>
<td>8/1-9/15</td>
<td>65-70</td>
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<tr>
<td>Cantaloupe</td>
<td>Ambrosia, Athena</td>
<td>P</td>
<td>4/15–5/15</td>
<td>7/1-7/15</td>
<td>85-90</td>
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<tr>
<td>Corn, Sweet</td>
<td>Silver Queen, Bodacious, Merit, Summer Sweet</td>
<td>S</td>
<td>3/15–4–30</td>
<td>85-90</td>
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<tr>
<td>Okra</td>
<td>Clemson Spineless, Lee, Annie Oakley II</td>
<td>S</td>
<td>5½–5/30</td>
<td>8/1-8/30</td>
<td>60-70</td>
<td></td>
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<tr>
<td>Peas, Southern</td>
<td>Queen Anne, Mississippi Silver, Pinkeye Purple Hull</td>
<td>S</td>
<td>3/25–6/15</td>
<td>8/1-8/30</td>
<td>55-65</td>
<td></td>
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<tr>
<td>Peppers (hot)</td>
<td>Habanero, Aji Dulce, Cayenne, Hungarian Wax, Jalapeno M</td>
<td>S/P</td>
<td>4/15-5/10</td>
<td>8/1-8/15</td>
<td>75-80</td>
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<tr>
<td>Peppers, Bell/Ancho</td>
<td>Camelot X3R, Excursion II, San Juan (Ancho)</td>
<td>S/P</td>
<td>4/15-5/10</td>
<td>8/1-8/15</td>
<td>75-80</td>
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<tr>
<td>Pumpkins</td>
<td>Autumn Gold, Howden’s Biggie, Magic Lantern, Spookie (small)</td>
<td>S</td>
<td>6/15-7/10</td>
<td>115-120</td>
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<tr>
<td>Squash, Summer</td>
<td>Goldbar, Dixie (yellow), Elite (zucchini), Sunburst (scallop)</td>
<td>S</td>
<td>4/1–5/30</td>
<td>7/15-8/15</td>
<td>50-60</td>
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<tr>
<td>Squash, Winter</td>
<td>Butternut Supreme, Veg. Spaghetti, Golden Hubbard, Table Ace</td>
<td>S</td>
<td>4/15–5/20</td>
<td>70-95</td>
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<tr>
<td>Sweet potatoes</td>
<td>Beauregard, Hernandez, Jewel</td>
<td>P</td>
<td>5/1–7/15</td>
<td>95-125</td>
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<tr>
<td>Watermelons</td>
<td>Crimson Sweet, Mardi Gras, Sangria, Atlantic Giant</td>
<td>S</td>
<td>4/15–6/30</td>
<td>90-100</td>
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</tbody>
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Hyperlinks
Rain Barrel
http://media.clemson.edu/public/restoration/carolina%20clear/toolbox/cc_rainbarrel_manual_may11.pdf
Water Catchment/Rain Water Harvesting
http://www.seattle.gov/util/environmentconservation/mylawngarden/rain_water_harvesting/
Container Gardening
Constructing Easy Raised Bed
Home Asparagus Production
http://www.ces.ncsu.edu/hil/hil-8002.html
Container Gardening Calendar
http://cals.ncsu.edu/hort_sci/extension/documents/ag-748.pdf
Polyacrylamides
http://puyallup.wsu.edu/~linda%20chalker-scott/horticultural%20myths_files/Myths/Hydrogels.pdf
Soil Testing
http://www.ncagr.gov/agronomi/sthome.htm
Garden Tools
http://lee.ces.ncsu.edu/2013/04/basic-garden-tools-3/
Vegetable Transplants
http://granville.ces.ncsu.edu/2012/02/starting-vegetable-seeds/
Season Extenders
http://pubs.ext.vt.edu/426/426-381/426-381.html

Great Websites
Growing Small Farms Vegetable Variety List
http://growingsmallfarms.ces.ncsu.edu/growingsmallfarms-varietylist/
Home Vegetable Gardening Leaflets
NCSU Hort Gardening
http://cals.ncsu.edu/hort_sci/gardening/
The Raleigh Yard Waste Center
Raleigh Yard Waste Center
http://www.ces.ncsu.edu/depts/hort/consumer/

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