



## Cucurbits: Summer Squash, Winter Squash & Pumpkins, Gourds

*The Cucurbita family has a many tasty, unusual and decorative members besides the big orange one. Other winter squash include acorn, banana, butternut, delicata, hubbard, and spaghetti among others. They mature in the fall and can be eaten fresh from the garden or cured and stored for later use. Summer squash are thin-skinned, harvested small, mature throughout the summer, and include zucchini, patty pan, summer crookneck and others. Gourds are the non-edible member of the family and come in numerous fanciful shapes which are great for decorating and crafts. Here are a few tips to grow them all:*

### Planning for Best Outcomes

In order to grow well, cucurbits need a warm, well-drained spot that receives full sun and has good air circulation. They thrive in soil that is high in organic material. Prepare your soil by working in plenty of compost and *Turface* as a soil conditioner for improved drainage. Good soil will create healthy vines that are less susceptible to pest and disease problems. To further reduce the risk, plant them where cucurbits haven't grown for the past two years. This includes all squash, cucumbers, gourds and melons. In addition, all garden debris must be cleaned up each fall.

### Seeds: Out in the Garden or Indoors?

- The soil in your garden must be sufficiently warm for your curcurbit seeds. Plant them outdoors once the soil has warmed to 70° – June to mid-June is best. Seeds can be sown in the following ways:
  - Hills – improves drainage and helps the soil warm rapidly in spring: mound soil a few inches high and 2'-3' in diameter, space 8'-10' apart. Compact varieties may be spaced 4'-6' apart. Place 3 or 4 seeds about 1" deep in a shallow depression at the center of the hill. When the seedlings are about 2" high, snip out all but the strongest one.
  - Wells – collects and retains moisture: remove soil from the center of a 2'-3' circle and heap it in a rim around the diameter. Spacing and planting in wells is the same as for hills.
  - Rows – for large gardens, a long, continuous hill with wells: plant seeds 12" apart in a series of wells along the center of the row which should be mounded a few inches high. For standard varieties rows should be placed 8 feet apart. Compact varieties can be placed 5 feet apart. When plants are 4"-6" tall, thin to 1 plant every 2 to 5 feet.
  - Square Foot/Intensive Gardens: choose compact varieties and space seeds 30 inches apart in a zigzag pattern. Up to 12 vines may be grown in a 4' x 20' bed. Growing on a trellis is also recommended in intensive bed gardening.
- To circumvent cool, wet soils, you may wish to start seeds indoors in mid-May and set them out as transplants once the soil is warm enough, 3-4 weeks later. Starting your seeds indoors can give you a jump on the growing season and will also help protect young seedlings when they are most vulnerable to insect damage.
- With this short turn-around time, cucurbits are good candidates for peat pots, especially since they dislike having their roots disturbed. Fill containers with moist seed-starting mix and bury two seeds 1"-1 ½" deep in each. Place in a warm area - cucurbits germinate best at soil temperatures between 65°-85°.

- The cotyledons (embryonic leaves) should emerge in 5-10 days. In about a week the roots will reach the bottom of the container. They are ready to transplant outside around the time the first true leaves appear.
- Harden off transplants outdoors for about five days by gradually extending the time spent in the wind and sun.
- Be very careful when handling your transplants as both the stems and roots are very fragile at this stage.

## Care, Feeding, and Storage of the Great Pumpkin and Other Curcubits

- Curcubits need large quantities water to grow big! Pumpkins in particular need 15-20" of water during the growing season which translates to over an inch of water per week. Either water early in the morning or use a slow soaker hose left on for several hours. Keep water off leaves to prevent the growth and spread of fungal diseases.
- When growing other winter squash, the focus is not so much about water as sun, heat and good drainage.
- Curcubits are heavy feeders. In addition to beds enriched with compost, add *Espoma Garden-tone 3-4-4* to hills when sowing or transplanting, and either water with Nature's Source 10-4-3 every three to four weeks or side-dress with more *Garden-tone* when plants begin to bear.
- If space is at a premium, runners of standard-sized vines can be cut back after the fruits begin to grow or choose bush or semi-bush varieties. Trellising is another option with varieties that set small to mid-sized fruit. Further support can be added by fashioning a sling of soft material.
- To attempt a champion pumpkin, remove all but one pumpkin on each vine and any flowers that appear, so all energy is directed towards it. Turn occasionally to keep symmetrical and set it on a board to protect from rot and boring insects.
- Summer squash is best harvested small by cutting the stem with a knife or pruners, leaving a 1" of stalk on the fruit.
- Winter squash is harvested when the stem turns brown. The shell will harden and change color slightly as harvest time approaches. When you can't puncture the shell with your thumbnail it is sufficiently hardened for harvest and storage. Cut or twist off the stem from the vine. Handle winter squash carefully; any scratching or bruising could shorten storage life. Pumpkins, hubbards and butternuts should be first cured in a warm (80-85°) dry space out of direct sunlight for 10-14 days. Then store at 50-60° in an airy, dry place.
- A word about seed-saving: there are four species of squash commonly grown in home gardens. Cross-pollination of the same species can occur within ½ a mile! Choose a selection of different species if you wish to save the seeds.

## Pro-Active Protection from Devious Enemies

Aphids, vine borers, cucumber beetles, and squash bugs can blemish your fruit and diminish your vines. More importantly, they spread diseases such as bacterial wilt and cucumber mosaic virus that can stunt or kill your vines.

- Use a 2-3 year rotation for the entire *Curcubita* family: squash, cucumbers, gourds, melons
- Plant resistant varieties, i.e. "CMV" = resistance to Cucumber Mosaic virus.
- Use row covers to keep out pests, removing when flowers appear for pollinators to enter, or when vines outgrow them.
- To insure pollination, inter-plant with flowering plants that will attract pollinators as well as predatory beneficial insects.
- When your plants begin to spread, bury the vines where the leaf nodes touch the soil to keep squash-vine borers from laying eggs in the stems. This will also encourage further root growth and help to stabilize plants.
- Inspect your plants early and often. Hand pick harmful insects, eggs, and larvae and watch for disease symptoms. Be particularly pro-active about aphids on soft, young foliage. Spray them off the plant with a forceful jet of water. If they persist, move on to applications of *Safer Insecticidal Soap*.
- Regular applications of systemic *Neem Oil* on a 7-14 day schedule will combat both insects and fungal diseases.
- Lastly, an insider's tip from Mac Condill from the Great Pumpkin Patch in Arthur, Illinois: Turban squash is the cucumber beetle's favorite squash – plant one as a trap plant and the beetles will leave your other cucurbits alone! Pull out the plant that is covered with insects and put it in a plastic bag, not in the compost pile.