

# **GROWING GIANT PUMPKINS**

## **Basic Cultural Practices**

**By Joel Holland and edited by SNGPG for Northeastern America**

**SOIL PREPARATION:** Minimum space suggested is approx. 450 sq. ft. per plant. Twice that space or even more would be an advantage, and will generally result in larger pumpkins. Prepare the soil by cultivation. Rake out larger stones, clumps of sod, etc. Incorporate into the soil an inch or more of organic matter in the form of compost, aged manure, peat moss, leaf mold, or rotted straw. Adjust pH to 6.0 - 7.0. Prior to planting, broadcast a balanced organic or commercial granular type fertilizer, and work into the soil.

**STARTING SEEDS:** Start seeds in 4" peat pots or 1 gallon black plastic pots in potting soil about May 1-10th depending on local conditions. The tendency is to start too early, which generally works against the grower. Starting at the plants indoors at the end of April is also done, by some growers. But you will need heated indoor nurseries, to start the germination process, and then outdoor mini (6ft x 6ft) greenhouses, for example, to protect your planted seedlings, until conditions warm up outside, around early to late May. The plants will need warm soil and settled weather to grow well. Seeds germinate best at 80 - 95 degrees F. Germination will be slow and may fail at cool room temperature of 65 - 70 degrees F. A commercial propagation mat may be used, or a warm microenvironment found. Some examples would be: Over a hot water tank, in the oven with just the light on, in a cooler chest with warm bottles of water inside, on a mantle near a stove, etc, or green house. Excess heat is to be avoided. Seeds may be pre-spouted between moist towels to 1/4" root protrusion and then planted one to each pot, rooted side down and 1/2" soil over the rounded end.

**TRANSPLANTING and EARLY GROWTH:** After 3 to 5 days, transplant potted plant to prepared growing beds. These growing beds or mounds should be about 3 to 6 inches higher than the surrounding area and about 3 to 6 feet in diameter. This will allow for proper aeration and drainage, in the event of heavy rain. Plant the seedling at a slight angle, in the direction you want it to grow. Protect young seedlings with properly ventilated cloches or mini-greenhouses. Water as necessary to avoid heat stress or wilting. In the Northeast your mini green houses may be removed for the summer around May 17<sup>th</sup>. As the weeks go by and the plants main vine grows, out to approximately 8-10 feet wind protection may be needed until plant is well anchored with vines on the ground. (Black Silt fences, found at Home Depot or Lowes work for this need). Mound soil over vines at several leaf axils to stabilize plant and to encourage secondary rooting from the vines. Water as needed, adding balanced soluble fertilizer to water once per week. Control weeds with mulching, shallow cultivation, and hand weeding as necessary. Remember, shallow roots may extend 4 ft. or more out from perimeter of the plant. Be careful not to disturb the area around the stump of the plant to much. To avoid compacting the soil, and allow the roots to grow. I recommend strategically placing planks of 1ft x 3 ft plywood on the ground to allow you to walk in the garden and tend to the plant.

**FRUIT SET:** The plant should blossom and set fruit between July 1st and 20<sup>th</sup>. Male blossoms will appear first. Males are on long stems with a rod like structure inside the flower, which is coated with pollen. The first open male flowers will be towards the center of the plant. Female flowers are on a short stem, and have a small round yellow pumpkin behind the flower. The first female flower to open will be out from the center of the plant on one of the vigorously growing vines. In the absence of bee activity or to get an earlier set, the grower may hand pollinate a newly opened female blossom with several of the fresh male flowers. Pick several newly opened male flowers and tear away the yellow flower portion, exposing the pollen-bearing stamen. Leave part of the stem to use as a handle and gently roll the pollen from the males onto the stigma in the center of the newly opened female blossom. Depending on temperature and weather " is generally done from early to mid morning. Males from the same plant as the female to be pollinated may be used, (self-pollinated). However, for best quality, it is best to use males from a separate and not closely related plant, (cross pollinated). The plant must be large enough to support a fast growing pumpkin; therefore setting a fruit too early can have a negative result. The plant should have a minimum of 100 - 150 leaves before a pumpkin is set.

**PRUNING:** To avoid rampant crossing vine growth, it is advisable to trim and prune. Generally 1 primary vine is allowed to grow out from the stump of the plant in the direction you desire. Side vines will develop on each of the primary vines, alternately at each leaf. The side vines are allowed to grow, but are trained away from one another or pinched back before they cross. These side vines would in turn produce their own set of vines alternating at each leaf. This third set of vines (tertiary vines) is removed from each secondary vine when they are small or in the bud stage. This results in a more open plant with better air

circulation, which can help prevent disease problems. 2-4 pumpkins can be set on the primary vine structures. After 2 - 3 weeks you need to cull down to the 1 or 2 best looking, biggest, pumpkins. Obviously having 1 pumpkin per plant increases your risk, but the rewards and possibility of growing a larger, heavier pumpkin increase because more energy is focused on the one fruit.

**STEM STRESS:** Stress or tightness can develop where the stem of the pumpkin attaches to the vine. The vine must lift off the ground, as the pumpkin grows taller. The vine will be rooted to the ground on the under side, these roots must be severed several feet each way from the pumpkin. Also as the pumpkin grows, the shoulders of the fruit on the stem end may contact the vine and create stress. This usually happens on the side away from the center of the plant. The pumpkin may be moved very slowly, 1 inch per day, until it is at a 90-degree angle to the vine (both shoulders equal distance from the vine on each side of the stem). **Never** move the pumpkin early in the morning as the stems and vines are brittle when it is cool. Adjustments should be made a little at a time in the afternoon, starting when the pumpkin is approximately basketball size. It is helpful to have the pumpkin growing on the outside of a curved section of the vine. In this way the pumpkin will have more room to develop without pushing on its vine. The vine can be manipulated. Stem stress symptoms can develop very quickly with a fast growing pumpkin. The vines near the pumpkin should be checked frequently for tightness. When the pumpkin grows taller, several feet of vine will be supported by the stem of the pumpkin in both directions. It is helpful to support the weight of the vine with blocks of Styrofoam or other material in order to take stress off of the stem.

**SHADING:** When the pumpkin is small, the leaves of the plant will shade it. When the pumpkin grows larger, shade should be provided. Shading reduces the aging stress of direct sunlight on the tender skin of the fruit, and allows the shell to expand and stay flexible longer. Shading also reduces the internal temperature of the pumpkin, reducing the threat of rotting or splitting.

**SPLITTING OR CRACKING:** Each year many large pumpkins split or crack while growing at a rapid rate. *We walk a fine line.* The grower wants his pumpkin to grow as fast as possible in order to reach a large size, and as a result may step over the unmarked line (sustainable growth curve). Some seed stocks are more at risk than others, especially those with genetic potential to produce pumpkins over 700 pounds. Factors, which may help to avoid splitting, include:

1. Try to grow your pumpkin at an even moderate pace over the entire season.
  2. Try avoiding large doses of fertilizer and water at critical phases of the pumpkin growth cycle.
  3. Try having a high level of organic matter and an even concomitant moisture level to help moderate and buffer against growth spurts and stops.
  4. Place a fine layer of sandbox sand under the pumpkin or in front of the pumpkin as it grows. This allows the pumpkin to easily slide forward as it gets larger and its massive shoulders expand out.
- Multiple fruits on a risky cultivar may act as shock absorbers, spreading a surge in uptake over two or three pumpkins. Applying a fungicide and reducing water and fertilizer to the plant can manage minor cracks. Stem splits often appear much worse than they are. The stem is hollow and may split all the way through and tear into the flesh of the pumpkin a small amount. Sometimes this releases the stress allowing the pumpkin to develop. Treat all wound sites with fungicide, allow for good circulation, and keep the area dry. Occasionally a stem split or a surface crack will continue to expand and deepen until the seed cavity is breached. Once the seed cavity is exposed to the outside atmosphere, the pumpkin is no longer a viable candidate for competition. No effort should be taken in regards to plugging or patching, as the pumpkin will rot from the inside out.

**PESTS AND DISEASE:** Problems vary widely from region to region. First, that Black silt fence or rabbit guard fence, you put up earlier in the year, generally does a good job of protecting your plants from wood chucks and deer, etc. Placing some sandbox sand under the pumpkin helps protect it from mice, since they can not chew through the tiny pebbles in the sand. Sometimes black aphids appear on the undersides of the leaves later in the season. Aphids and cucumber beetles can spread the mosaic virus and bacterial wilt. Isotox, from any local gardening center will take care of these insects. It is best to contact an experienced local grower for specific problems in a given area. Information may also be available from County Agricultural Agents and garden centers in regards to insect or disease problems affecting pumpkins or squash in region. Where vine borers and cucumber beetles are present, plants may need preventative action before pests are active. In the August and September months a white powdery mildew will generally attack the leaves on the plants. The leaves will turn white and die in a week or two after the first indication of this airborne mold. A good means of protecting the plant from the onslaught of Powdery Mildew is to apply Daconil, starting in early August. This Scotts product is available at Lowes or Home Depot.

