

PUMPKIN POST HARVEST HANDLING

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The most popular fall decoration is the pumpkin. And many growers are in the process of harvesting their pumpkin crop to satisfy the market demand. As we approach the prime market season, we must consider the duration of the buying season. We are most familiar with the Halloween market season, but growers also need to take advantage of the sales opportunities that exist through the end of November for the Thanksgiving season.

In order for growers to take advantage of an extended market season, you must be able to harvest and store pumpkins in a manner that will extend the shelf life into December.

The storage quality of a pumpkin is influenced just as much by harvest and post-harvest handling as it is by care and management of the pumpkin while it is growing. A poor quality pumpkin at harvest will not improve after harvest, but a high quality pumpkin can be maintained with proper post-harvest handling techniques or it can deteriorate because of poor post harvest handling procedures.

At the end of the growing season, the grower must assess the maturity level of the pumpkin crop to insure mature fruit is harvested to prolong shelf-life. For most varieties, research has shown that jack o lantern size pumpkins achieve full color 45-50 days after fruit set and stem hardening peaks at 20-35 days after fruit set. Of course, maturity rates are influenced by plant stresses during the growing season such a pest pressure and soil moisture conditions. If vines die before the pumpkin reaches full maturity the flesh quality and steam health will be compromised leading to premature fruit breakdown.

Once the fruit is mature, the pumpkins should be harvested while the vines are still healthy and before frost. Maintaining vine health through harvest improves stem health and durability. As you know, pumpkins with weak or broken stems are less desirable to consumers and lead to premature fruit meltdowns.

Pumpkins need to be cut from the vine with hand pruners or long handled loppers to protect stem health. After cutting pumpkins from the vine, fruit should be removed from the field as soon as possible after the fruit surface is dry, and store in a shaded, dry, ventilated area. Fruit left in the field is susceptible to disease infections, sun scald and frost damage. If you are putting pumpkins in bins from the field, pumpkins must be dry, disease free and handled with care to prevent bin rots that will infect the entire bin. Pick-your-own operations must evaluate field conditions to determine the best harvest strategy to preserve pumpkin quality. Later maturing pumpkins can be left in field for the customer to pick as long as field conditions are relatively dry and they are protected from sun scald and frost. Pumpkins that mature early will have little chance to maintain quality until the market season arrives; therefore, fruit should be removed from field and properly stored until you "reseed" your fields for your pick-your-own customers. The cost of labor, labor availability, time and cost of field losses due to rots are the variables to consider when making your harvest decisions.

Growers need to emphasize with workers the importance of handling the fruit properly during harvest to prevent damage. The preferred way to harvest fruit to avoid damage is to handle the pumpkin from the bottom and carefully arrange the fruit in the bin to protect the stem handles and other pumpkins from puncture wounds. Mechanical injury, punctures and bruising will compromise the long term storage qualities of the fruit. Some growers have used chlorine solutions as a post harvest dip to protect pumpkins from surface rots to prolong shelf life. But on-farm research in Maryland showed no benefits from chlorine dips.

After harvesting pumpkins, the most important factor in preserving pumpkin quality is storage temperature. The ideal storage temperature is between 50° F to 60° F. This temperature range is usually not feasible for most growers with a six to eight week marketing season. Generally, healthy, disease free, fully mature, dry fruit can be preserved quite well with fluctuating temperatures between 35° F and 70° F, which can be achieved in a well ventilated shed that limits direct sun exposure and provides frost protection.

Since pumpkins are a popular cash crop for apple producers, it is important to remind growers that storing pumpkins with apples is not a good idea. Stored apples emit ethylene gases that accelerate the ripening process and will potential lead to over mature pumpkins and premature breakdown.

Growers working hard during the growing season to implement a sound pest management plan will produce high quality pumpkins. Healthy, disease free, mature pumpkins that are handled properly can be preserved for six months and extend your marketing season into November.