Cold Injury and Storage of Winter Squash

By Mike Nuckols, *Local Foods & Horticulture Program Manager*

One of my favorite pumpkins is a French heirloom known colloquially as the Cinderella pumpkin, but officially as '*Rouge Vif d-Etampes*.' Every year, I plant one or two of these for fall and winter use. Unfortunately, at the end of the season this year, I got busy with other projects, ignored weather forecasts, and neglected my pumpkins. We pulled them from the field within hours of this season's first frost, which occurred earlier than expected. This neglect showed up during storage as several of them rotted, not even making it to Halloween!

Local growers had excellent crops of winter squash, such as butternut or acorn, intended for winter storage and sales. Unfortunately, a handful of growers are already seeing rot. There are a number of potential reasons why winter squash and pumpkins do not keep.

This year, early frost and cool nights were a major contributor to injury. Contrary to popular belief, winter squash and pumpkin are not only freeze-sensitive but also chilling-sensitive. They sustain injury at 50°F or below. Damage is cumulative and can worsen after many nights of exposure. Symptoms appear once the fruit is warmed, usually during transit or storage. Injuries appear as sunken pits which then are invaded by secondary pathogens, causing the fruit to rot.

Ideally, pumpkins should be cut and left in the field for a few days before gathering. Temperatures between 68 to 77F allows the outer rind to toughen up and wounds to heal. Rough handling during harvest (tossing into wheelbarrows or onto trucks) can contribute to rot. Bacteria and fungi enter through these injuries and cause decay.

Once properly cured, pumpkins should be stored at between 52 and 61° F with 55-75 percent (optimum 60 percent) relative humidity. Higher humidity – which we saw during the rainy weather this fall -- favors the development of decay. Adequate air movement helps to keep the skin of the pumpkins dry, helping in both curing and storage.

For more detail on this issue, consult the following fact sheet from Cornell University:

http://vegetablemdonline.ppath.cornell.edu/factsheets/Cucurbit_FrtRots.htm

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