

Storing Fruits and Vegetables from the Home Garden

Many Wisconsin residents enjoy growing fruits and vegetables at home. While our growing season is relatively short, many different kinds of produce can be stored at home, allowing us to enjoy good produce well after the harvest has finished. Sometimes produce can be purchased in bulk during the growing season at a reduced price, but this is only economical if the produce can be stored so that quality is maintained.



Where and How to Store Produce – Few homes have perfect storage conditions for fresh produce, but it is possible to create spaces that will help to extend the length of time produce can be stored. The optimum storage conditions for fruits and vegetables may be divided into three groups:

- **Cool and dry** (50-60°F and 60% relative humidity). Basements are generally cool and dry – or places in basements can be made cool and dry. Cool and dry are the best storage conditions for winter squash and pumpkins.
- **Cool and dry** (32-40°F and 65% relative humidity). Cold and dry describes most refrigerators or perhaps an insulated garage in the fall and spring. Onions and garlic prefer cold and dry conditions.
- **Cool and moist** (32-40°F and 95% relative humidity). Cold and moist storage is the most challenging condition to create. Refrigerators provide the cold, but they also dry the air. Placing produce in perforated plastic bags in a refrigerator can create a cold and moist environment. All fruit that grows in Wisconsin and most tender vegetables require these storage conditions.

If resources permit, a second refrigerator can be set up specifically for storing fresh produce. This second refrigerator can be maintained at the proper temperature for long-term high-quality storage of fresh produce. Also, a second refrigerator would be opened less, helping to maintain steady and uniform temperature. Keeping a thermometer in the refrigerator will help you monitor the temperature.

Storage compatibility – Even if fruits and vegetables require similar storage conditions, they can't always be successfully stored together. Produce may give off strong odors which can be absorbed by other items. Onions, for example, give off pungent gases and should not be stored near apples or potatoes or they will absorb the flavor. Apples, pears, tomatoes, and overripe cucumbers give off a gas known as ethylene. In sensitive crops, exposure to ethylene may cause yellowing, softening, and decay.

Maximizing Storage Life – Understanding storage needs can help you take steps to maximize storage life.

Store at ideal temperatures – Fresh fruits and vegetables are living organisms – even after harvest. They consume oxygen and release carbon dioxide. This process is called respiration. The rate of respiration depends on the storage temperature and type of produce: lowering the temperature slows respiration and extends storage life. Thus, produce should be cooled to the ideal temperature as quickly as possible after harvest. Some produce is sensitive to cold temperatures and should not be chilled.

Maintain moisture – All fresh fruits and vegetables contain water. It is water that makes fresh strawberries so juicy and potatoes flakey when they are baked. Fruits and vegetables release water into the air in a process called transpiration. After harvest, water released into the air is not replaced and the produce eventually shrivels. You can maintain moisture in most fresh fruits and vegetables by storing them in perforated plastic bags or by increasing the humidity in the air around the produce.

Avoid temperature extremes – When fresh fruits and vegetables are exposed to extreme temperatures (too high or too low), the tissue can be damaged. Fresh produce that has been frozen will begin to break down almost immediately upon thawing. Signs of cold damage include internal browning of plums or apricots, excessive softness in pears, and brown corky spots under the peel of apples. By contrast, overheating and exposure to sun may cause bleaching, scalding, uneven ripening, softening or shriveling in fruits and vegetables.

Remove diseased produce – Most produce is quite resistant to disease as long as the skin remains intact. Skin punctures or cuts provide access to disease-causing fungi or bacteria. Before storing, inspect produce for wounds or for early signs of disease such as tissue discoloration, water soaking, or decay. Discard damaged produce or use immediately. Plan to routinely inspect stored produce, removing any fruits or vegetables with signs of decay.

Prolong storage life using perforated plastic bags – For storing produce, perforated plastic bags are preferable to solid ones. The holes allow some air movement in and out of the bags while retaining most of the moisture inside the bag. This prevents condensation and reduces shriveling. When produce is stored in sealed bags with no holes, water will condense on the inside of the bag leading to storage rot. You can purchase perforated bags or make your own.

Make your own – There are a variety of ways to perforate bags. You can make holes using a standard paper punch or a sharp object such as a pen, pencil or knife. Punch holes approximately every 6 inches through both sides of the bag. If using a knife to create the openings, make two cuts – in an “X” shape – for each hole to ensure good air circulation.

Resource: UW-Extension Publication A3823 – *Storing fruits and vegetables from the home garden* written by Teryl Roper, Karen Delahaut and Barb Ingham. This publication is available from the Fond du Lac County UW-Extension Office, 227 Administration Extension Bldg., 400 University Drive, Fond du Lac. There is no charge. Stop in or call 929-3174.

For more food safety information contact Amanda Miller, WNEP Coordinator/Family Living Educator, UW-Extension Fond du Lac County at 929-3174 or visit: <http://www.foodsafety.wisc.edu/preservation.html>

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