

Crisping

Retail Farm Market School



Penn State **Extension**

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NORTHEAST

**CENTER FOR RISK
MANAGEMENT EDUCATION**

Fresh produce

- Unique characteristic
 - fresh produce is alive and breathing.
- Oxygen is used up in the breathing process.
 - enzymes, oxygen combines with plant sugars
 - carbon dioxide and heat is given off
- The process is a continual one,
 - at a faster rate in certain commodities
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- The ones, which *live the fastest*, give us the *greatest handling problems*, as they are the *most perishable*.

1st step . . .

- Refrigeration is the best way to hold down the respiration rates and other life processes.
- Strawberries, for example, respire about 10 times as fast at 70°F as at 32°F.
- Aging processes, such as cabbage yellowing, also are held back with refrigeration.

Why? . . . wilting

- Moisture loss is the most conspicuous loss of freshness
 - causes wilting and shriveling.
- Most fruits and vegetables contain from 80% to 95% water
 - moisture can be readily lost.
- Spaces between the cells of plant tissue remain near 100% relative humidity
- Produce will lose moisture to the surrounding air whenever the air humidity content is less than saturated.

Who cares?

The produce department is one of the few areas in our market where we can actually improve the quality and appearance of the product after it arrives at the store!

It's all about returning some water

- Very important that all items have moisture.
- Make sure water is **lukewarm**
 - (approximately 95°F to 100°F)
- Cold water will shock / seal the butt
 - produce will not take on the needed moisture
- Hot water will cause cell damage and wilting

. . . however . . .

There are some fresh products that require cool water and are recommended not to completely submerge in water.

Whether to use lukewarm or cool water and whether to submerge completely in water should be outlined in your market's procedures.

Time in water

- more tender the produce, such as spinach, will require less time to absorb water.
- the denser (or woody) products, like celery, will require longer time.

Then . . .

- Drain as much water out of product as possible.
- Place product on crisping trays in a manner that will allow any excess water to continue draining.
- Store in cooler.
- Cover with wet cloths to slow down the wilting process.

Asparagus

- requires lots of **cool water standing with the butts only submerged in cool water.**
 - Do not spray the tops.
- Upon arrival, you should remove Asparagus from the original container and prepare bunches for sale by trimming the stem end.
- Place in a tray of water standing upright.
- Put the merchandise in the walk-in cooler until it is needed for display.

Head lettuce

- Upon arrival remove it from the original container and give it a drink of **lukewarm water**
 - completely submersing the product for at least ten minutes.
- The time the product is left in this lukewarm water depends entirely on the product itself.
- After soaking, remove the product and place it butt up on the crisping tray.
- This tray should have holes in it so the water can drain.

Celery

- Immediately upon arrival and after trimming, prepare the celery needed for the next day
 - **completely submersing in lukewarm water,** washing any dirt from the ribs.
- Do not trim the top of the celery until you are ready to place it in a walk-in cooler.
- When ready to put on display, simply trim the top and display.

Leaf lettuce / Spinach

- These items are very fragile and should not be handled more than necessary.
- Remove them from original container and after trimming
 - **submerge completely** in **lukewarm** water for about ten minutes.
- After soaking, place butt up on crisping tray allowing it to drain, and place in walk-in cooler.

“greens”

- It is very important that you take them out of the original container and after trimming
 - **submerge completely** in **lukewarm water** for approximately ten minutes.
- Put the merchandise on a tray and put into the walk-in cooler until it is needed for display.

Onions

- A little different
- Remove from the original container and place on a crisping tray.
 - **spray with cool water** and place in walk-in cooler.
- Do not submerge completely in water.
 - This would allow moisture inside the blades causing an acceleration of decay.
- Trim the tops of the green onions when ready to be displayed for sale.

Radish – bunch / green tops

- Bunch radishes should be removed from the original container placed globe end down on a crisping tray
 - **sprayed with cool water.**
- Do not submerge completely in water
 - moisture inside the green bunches would cause an acceleration of decay.
- After spraying, store in a walk-in cooler until needed for display.

Sweet corn

Corn heats from the inside and its sugar turns into starch causing the corn to become tough.

- Upon arrival, fresh corn should be stored immediately in the walk-in cooler and topped with ice.
- **Do not submerge completely** in any type of water.
 - Submersing in water will cause an acceleration of decay.

Broccoli

- Requires lots of **cool water**.
- **When crisping**, stand with the butts only **submerged** in **cool water**.
 - Do not spray the tops.
- Place in a tray of water standing upright.
- Put in the walk-in cooler.

- Upon arrival, fresh broccoli should be stored immediately in the walk-in cooler and topped with ice.
- **Do not submerge completely** in any type of water. Submersing in water will cause the flower tops to open.

Turnips / Loose carrots

- Upon arrival, need to be slightly trimmed on each end and the stored immediately in the walk-in cooler in a **tub of cool water**.
- Storing these items completely submersing in cool water will reinstate moisture lose.
- Each day, rotate any turnips and bulk carrots from the sales floor refrigerated display case.
 - Place in a tub of cool water and store in cooler overnight.

remember

- Crisp, fresh merchandise must be put out daily and if possible, must be pulled each night.
- The refrigerated display case on the sales floor is not as cold as your walk-in cooler and these items need to be maintained as cold as possible without freezing them.
- The proper temperature control slows down the natural aging process and cold retards the growth of bacteria
 - bacteria causes decay.

Over night

- Merchandise should be removed from the refrigerated display case on the sales floor and be re-trimmed (paper-thin re-trim)
- Re-crisped
- Then stored overnight in the walk-in cooler.
- This product will be ready to re-display the next morning.

Day time

- Day care of the product is just as important as crisping and night care.
- Product on display needs to be watered at
 - least every half-hour throughout the day.
- This way, a fresh image is more easily maintained.