

# Harvesting and Storing Fresh Produce

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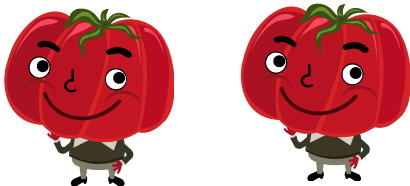
Great Plains Vegetable Conference  
Saint Joseph, Missouri  
January 9, 2010



## When to Harvest

➤ A Tale of Two Tomatoes

### A Tale of Two Tomatoes



Local

Other State

### A Tale of Two Tomatoes



Local

Other State

They both started out as young, green tomatoes with a great hopes for the future.

### A Tale of Two Tomatoes



Local

Other State

They started to ripen.

### A Tale of Two Tomatoes




Local

Other State

Suddenly, one was picked!


A Tale of Two Tomatoes



Local                      Other State

The first tomato was allowed to ripen on the vine, and was marketed at a roadside stand.

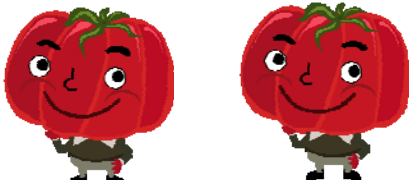
A Tale of Two Tomatoes



Local                      Other State

The other tomato was shipped 1200 miles and gassed with ethelene.

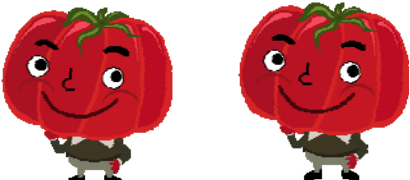
A Tale of Two Tomatoes



Local                      Other State

Both turned red.  
But which one tasted the best?

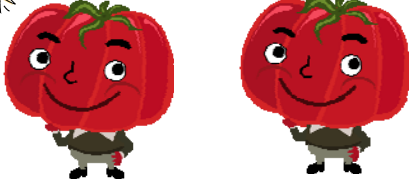

A Tale of Two Tomatoes



Local                      Other State

What's the difference?  
They're both red.

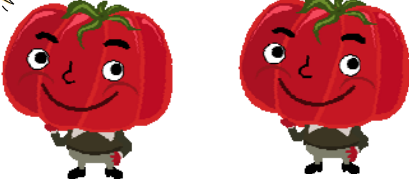

A Tale of Two Tomatoes



Local                      Other State

Photosynthesis makes SUGARS and makes better tasting tomatoes.


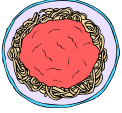

A Tale of Two Tomatoes



Local                      Other State

What would happen if you tried to ship that first, vine-ripe tomato 1200 miles?




### A Tale of Two Tomatoes

**Local**                      **Other State**

**A truck full of tomato paste!**




### A Tale of Two Tomatoes

**Local**                      **Other State**

**The moral of the story is to time your harvest for both your market and shipping needs.**

### A Tale of Two Tomatoes

**Local**                      **Other State**

**In reality, most growers at this conference will fall between the two extremes.**

### When to Harvest

- How far will the product travel?
- How soon will it sell?
- Who is going to buy it from you? A wholesaler, a retailer, or a consumer?
- Time your harvest to give your produce the best taste while still being able to make it to the consumer in good shape.

### What part of the plant?

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- Leaves
- Stems or petioles
- Fruit
- Roots or tubers

### Sanitation & Health Concerns

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- E. coli
- Health concerns affect your produce growing from planting till it's shipped.
- In harvesting and handling the final product, be sure that it's clean and safe.
- This will also make your product look better, and will hopefully bring a higher price at the market.

## Cooling Your Produce

- Removing field heat will lengthen storage life and improve quality.
- Cool water can be used, assuming that the produce can be subjected to moisture.
- Some produce can be cooled simply by putting it in the shade (watermelons).
- For really perishable produce that won't ship immediately, consider refrigeration or an ice house.



## Cleaning & Grading Produce

- Clean, uniformly graded produce sells!
- Produce that can be washed should be.
- If produce shouldn't be washed, clean as best as possible.
- Depending on your market, grading by size and quality may be needed.





## Packaging Produce

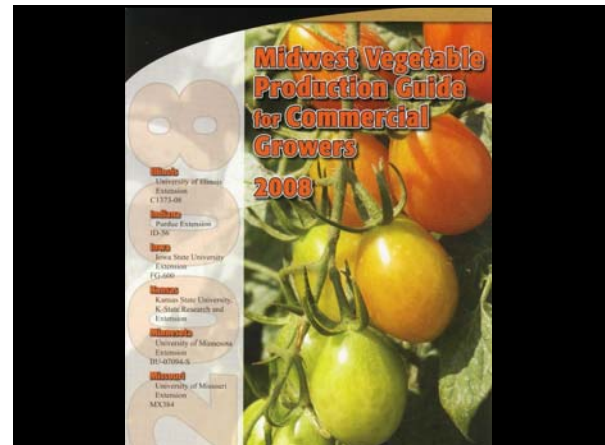
- Depending on your market and shipping needs, you may need special packaging.
- Attractive packaging helps market your produce and may bring a higher price.
- For roadside stands or farmer's markets, even where special packaging may not be needed, try to arrange your product in an attractive way. It draws customers.

## Storing Produce

- Unless you can sell your produce immediately, you will need a proper place to store it to maintain quality.
- Cool places work best.

## Complications

- Undetected diseases or other quality issues in your produce may cause problems later on.
- Example: pumpkin grower who had great pumpkins going into the bin, but they later rotted... from the inside out.



**Table 12. Postharvest Handling and Storage Life of Fresh Vegetables**

Give careful attention to the postharvest handling and storage of fresh market vegetables. Lack of adequate refrigeration and cooling will result in a shortened shelf life and lower quality of the fresh vegetable. The following list of recommended storage condition information is modified from the USDA's, *Agricultural Handbook No. 66*, and *Knott's Handbook for Vegetable Growers* (Donald N. Maynard and George J. Hochmuth, 5<sup>th</sup> ed. 2007).

Vegetable	Storage Conditions		
	Temperature (°F)	Relative Humidity (%)	Relative Storage Life
Broccoli	32	95-100	10-14 days
Cabbage, late	32	96-100	5-6 months
Carrot	32	95-98	3-4 weeks
Corn	32	95-98	2-5 days, up to 21 days for supersweet cultivars
Cucumber	50-55	90-95	10-14 days
Okra	36-41	95	10-15 days
Watermelon	50-60	90	2-3 weeks
Pepper, green	45-55	90-95	2-3 weeks
Pepper, ripe	42-48	90-95	1 week
Potato, early	+	90-95	+
Potato, late	+	90-95	+
Pumpkin	50-55	50-70	2-3 months
Squash, winter	50-55	50-70	+
Sweet potato	55-60	85-90	5-6 months
Tomato, mature-green	55-62	90-95	1-2 weeks
Tomato, firm-ripe	45-50	90-95	4-7 days

<sup>1</sup> Most summer-harvested potatoes are not stored. However, they can be held 4-5 months at 40°F if cured 6-8 days at 60-70°F before storage. They can be stored 2-3 months at 50°F without curing. Potatoes for chips should be held at 70°F or conditioned for best chip quality.

<sup>2</sup> Fall-harvested potatoes should be cured at 50-60°F and high relative humidity for 10-14 days. Storage temperatures for seed or table stock should be lowered gradually to 38-40°F. Potatoes intended for processing should be stored at 50-55°F. Those stored at lower temperatures or with a high reducing sugar content should be conditioned at 70°F for 1-4 weeks or until trial cooking tests are satisfactory.

<sup>3</sup> Winter-squash varieties differ in storage life. Acorn squash can be stored for 35-55 days, butternut squash for 60-90 days, and Hubbard squash for 180 days.

Finally....



If you have further questions or would like assistance in your horticultural endeavors...

Please don't hesitate to give me a call.  
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