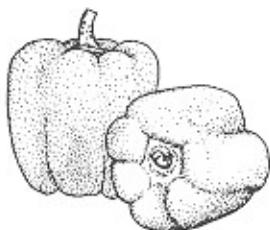


# Optimum Procedures for Ripening Peppers

by Marita Cantwell

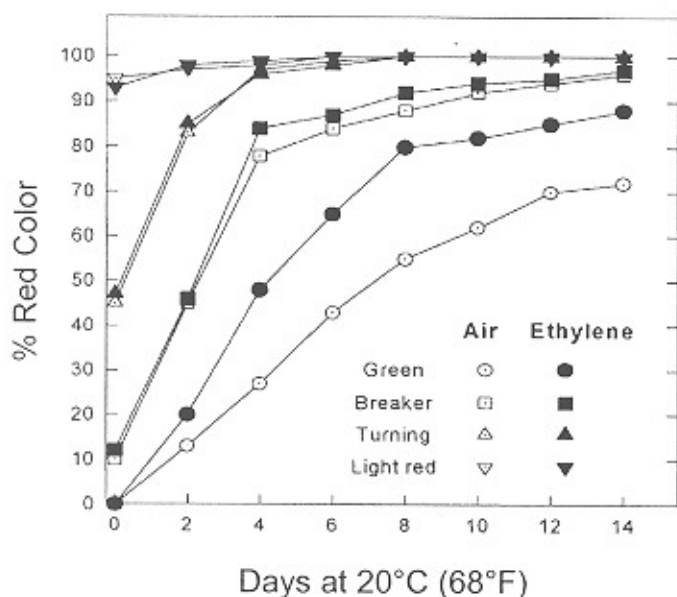
## Bell Peppers

Good quality green or colored bell peppers must be uniform and well developed in shape and size, have good cuticle development, be firm, and have uniform coloration. The postharvest shelf-life and quality of peppers is directly related to water loss. A weight loss of 6-8% results in peppers of decreased visual quality (shriveling) and firmness. Lowering the storage temperature is the most effective way to reduce weight loss and minimize undesirable color changes. Bell peppers are chilling sensitive and the recommended storage temperatures are 7.5°C (45°F) to 10°C (50°F). Storage at 5°C (41°F) can be used without causing chilling injury if the storage period is interrupted with short periods (18-24 hours) at temperatures >15°C (59°F).

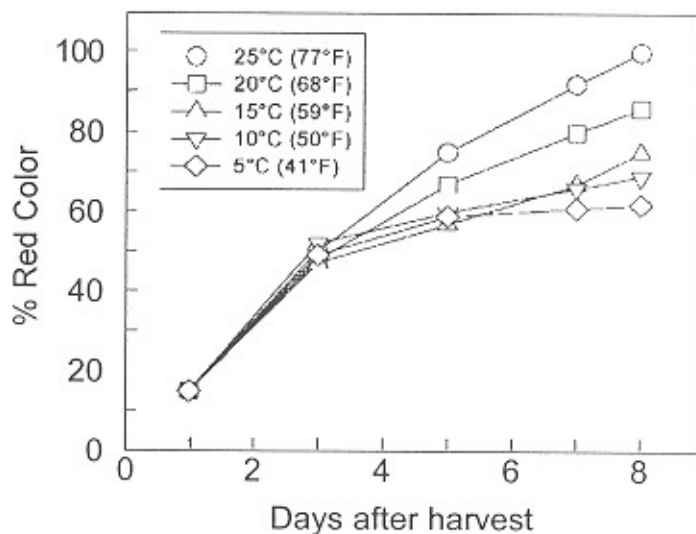


Ethylene (same conditions as used for tomato fruits) does not significantly enhance color changes in peppers harvested at the breaker (10-30% color), turning (30-60% color) or more advanced stages (>60% red color) (Figure 1).

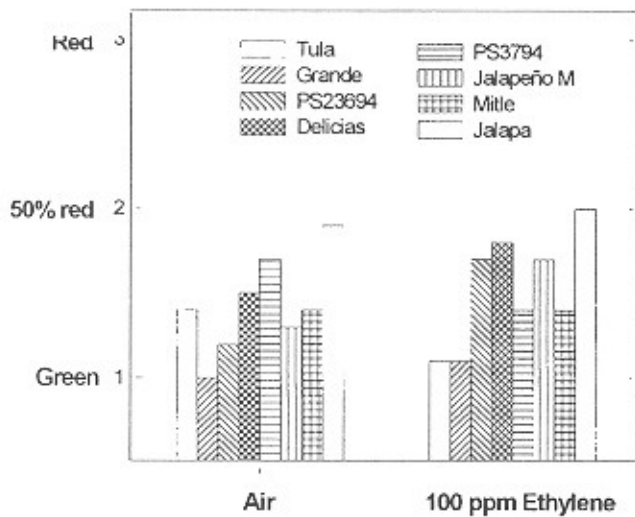
The higher the degree of coloration at harvest, the faster the peppers complete coloration postharvest. Temperature is the most important factor controlling red or other pigment development in peppers. Temperatures of 20-25°C (68-77°F) with high humidity resulted in the most rapid color change (Figure 2). Temperatures below 10°C (50°F) do not result in color change. So if the objective is to maintain mature-green peppers without color change, storage at 7.5°C (45°F) is recommended. Depending on the ability to humidify the air, color change can be controlled by temperatures in the range of 15°C to 25°C (59 to 77°F).



**Figure 1.** Ethylene treatment (100 ppm) has very little affect on color changes of bell peppers harvested at different stages of maturity. Mature-green fruit never reach complete coloration with or without ethylene treatment. (Cantwell, unpublished).



**Figure 2.** Color changes of bell peppers (average of 2 red and 1 yellow variety) harvested at the breaker stage (15% coloration) and stored at different temperatures at 90-95% RH.



**Figure 3.** Color change in mature-green chile peppers stored in air or 100 ppm ethylene at 20°C (68°F) 14 days. (Cantwell, unpublished).

### Chile Peppers

Chile peppers have been reported to behave as climacteric fruits although there is considerable variation among chile types. In types that respond to ethylene, conditions similar to those applied to ripen tomato fruits should be effective in accelerating color change. However for different jalapeño chile pepper varieties harvested at the mature-green stage, ethylene had little effect on color development during storage (Figure 3). Other types of chile peppers may respond to postharvest ethylene treatment.



### References

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