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Michigan Fresh

Hot Peppers

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Chili peppers, or hot peppers, are generally used to add flavor or heat to a main dish. These plants are native to Central and South America and are thought to be some of the first domesticated plants. The heat in chili peppers is caused by a chemical called *capsaicin*. Chili peppers, though used in small quantities, are high in vitamin C.

Whenever you work with hot peppers, consider wearing gloves and thoroughly wash your hands with soap and water afterward. Capsaicin may burn if it comes into contact with skin or eyes.

Recommended varieties

There are dozens of varieties of chili peppers around the world. Chili peppers have higher levels of capsaicin than sweet peppers. The level of heat of a hot pepper is ranked on the Scoville scale. Peppers with higher Scoville heat units (SHUs) are hotter. Below, in order of their level of heat, are some of the most common chili peppers found at Michigan farmers markets and in grocery stores:

1,400,000–2,200,000 SHUs – Carolina Reaper
855,000–1,00,000 SHUs – Ghost Pepper
100,000–350,000 SHUs – Habanero
100,000–325,000 SHUs – Scotch Bonnet
100,000–225,000 SHUs– Bird's Eye Chili
50,000–100,000 SHUs – Thai Hot Pepper
30,000–50,000 SHUs – Cayenne
10,000–23,000 SHUs – Serrano
2,500–5,000 SHUs – Jalapeño
1,000–2,000 SHUs – Poblano

This scale was adapted from *Know Your Chile Peppers* from the New Mexico State University Chile Pepper Institute. Retrieved from http://chilefacts.nmsu.edu/, with additional information from *The Scolville Heat Scale From Chilli World*. Retrieved from https://www.chilliworld.com/factfile/scoville-scale#ChilliPepperScovilleScale.

Quality

Select firm, fresh peppers. Hot peppers and sweet peppers can sometimes look identical in size and in color. For example, many similar-looking long banana-shaped pepper varieties can vary greatly in their heat potential. Be sure to check labels. Peppers all start green, and turn to another color when fully ripened. Color is generally not a good indicator of the level of heat. For example, red peppers are not necessarily hotter than orange ones, and orange peppers are not always hotter than yellow ones. All peppers accumulate more sugars as they change color, and chili peppers also accumulate more capsaicin. So, a fully colored chili pepper will always be sweeter and hotter than a green chili pepper of the same variety. Though not always the case, small-fruited chili pepper varieties can be hotter compared to larger fruited varieties. Smaller fruit from the same variety can also be hotter if the plant is stressed and ripens them faster before they gain in size.

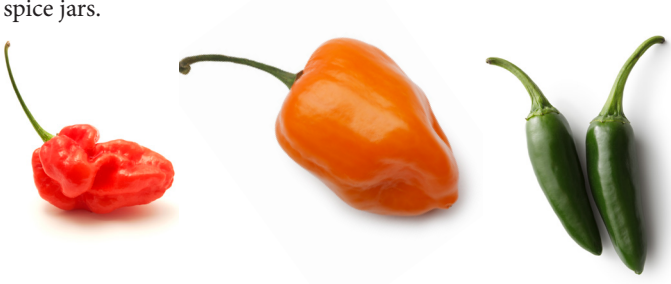
Maintaining freshness

Chili peppers, along with sweet peppers, can be stored in the refrigerator for 2 to 3 weeks.

Preserving hot peppers

Hot pepper flakes

You can use a commercial dehydrator or an oven to dry chili peppers. Do batches of the same variety of peppers to make sure they dry consistently. Slice peppers in half and remove stems before placing in a single layer. Leave seeds in for added heat, or remove for milder pepper flakes. If using an oven, preheat the oven to 200 °F and test frequently until all of the moisture is gone, which can take 3 to 6 hours. Crush dried peppers in a food processor and store in spice jars.



Pickled hot peppers

Pickled peppers can be water bath canned due to the acidity of vinegar in the recipe. Table 1 shows general water bath canning times for pickled peppers, but you should follow individual recipe recommendations for the more specific times.

The following recipe from the National Center for Home Food Preservation combines hot and sweet peppers for a spicy pickled kick! Be sure to wear rubber gloves when handling hot peppers to avoid burning your skin or eyes.

Ingredients

- 4 pounds hot peppers
- 3 pounds sweet red and green peppers, mixed
- 5 cups vinegar (5%)
- 1 cup water
- 4 teaspoons canning or pickling salt
- 2 tablespoons sugar
- 2 cloves garlic

To prepare

Leave small peppers whole or quarter and flatten large peppers. If preferred, remove pepper skins by blanching in boiling water or blistering in the oven, then peel. Stuff peppers into jars, leaving 1/2-inch of headspace. Mix the vinegar, water, salt, sugar and garlic. Bring the solution to a boil and simmer for 10 minutes. Remove garlic and pour the hot solution over peppers in their jars, leaving 1/2-inch of headspace. Adjust lids and process for the time that is appropriate for your altitude using Table 1.

(This table was adapted from *Preparing and Canning Pickled Vegetables: Pickled Hot Peppers* from the National Center for Home Food Preservation, February 2018. Retrieved from https://nchfp.uga.edu/how/can_06/pickled_hot_peppers.html)

Table 1: Recommended Processing Times for Pickled Peppers in a Water Bath Canner at Various Altitudes.

Product	Jar size	Processing time at altitudes of:		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot pack pickled peppers	Half-pint or pint	5 min	10 min	15 min
Raw pack pickled peppers	Half-pint or pint	10 min	15 min	20 min

This table was adapted from *Preparing and Canning Pickled Vegetables: Pickled Hot Peppers* from the National Center for Home Food Preservation, February 2018. Retrieved from https://nchfp.uga.edu/how/can_06/pickled_hot_peppers.html

Canning

Peppers being stored in water need to be pressure canned to ensure safety. The instructions and processing times are similar for hot and sweet peppers. The National Center for Home Food Preservation suggests peppers can be left whole or quartered to remove cores and seeds (2018, February). Blanch or blister skin with a broiler or stove top and cool with a damp cloth. Peel skins and flatten whole peppers to fit more peppers per jar. Fill jars with boiling water and optional ½ teaspoon salt, leaving 1-inch of headspace. Adjust lids and process using the proper pressure for your altitude found in Table 2.

Table 2: Recommended Processing Pressures for Canning Peppers for 35 minutes at Various Altitudes Using a Dial Gauge (Presto-Style) Canner and a Weighted Gauge (All-American-Style) Canner.

Canner gauge style	Product	Jar size	Processing time
Dial	Hot pack peppers	Half-pint or pint	35 min
Weighted	Hot pack peppers	Half-pint or pint	35 min

Canner pressure (PSI) at altitudes of:				
0–1,000 ft	1,000–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
11 lb	11 lb	12 lb	13 lb	14 lb
10 lb	15 lb	15 lb	15 lb	15 lb

This table was adapted from *Selecting, Preparing and Canning Vegetables: Peppers* from the National Center for Home Food Preservation, February 2018. Retrieved from https://nchfp.uga.edu/how/can_04/peppers.html

Freezing

Wash peppers and remove the stem. Freeze smaller varieties whole, or slice in half and remove seeds for a milder flavor. You can freeze peppers on a cookie sheet individually and then place into plastic freezer bags to prevent sticking.

References

National Center for Home Food Preservation. (2018, February). *Preparing and canning pickled vegetables: Pickled hot peppers.* Retrieved from https://nchfp.uga.edu/how/can_06/pickled_hot_peppers.html

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Resources

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Venema, C. (2015, March). *Using, storing and preserving peppers (HNI25).* [Michigan Fresh series]. East Lansing: Michigan State University Extension: https://www.canr.msu.edu/uploads/resources/pdfs/hni25_peppers.pdf

For more information about chile peppers, visit the Chile Pepper Institute at https://cpi.nmsu.edu/.

Find out more about Michigan Fresh at
https://www.canr.msu.edu/mi_fresh/

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