



Preserving Green Chile Peppers: Freezing, Drying, Freeze Drying, and Canning

Presented By NMSU Master Food Preservers

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WELCOME!

- Four- part green chile presentation by NMSU Master Food Preservers.
- Participants are joining from around New Mexico, Arizona, Texas, Nevada, and California.
- Use the chat for questions and to answer questions.
- Slides will be available on our websites.

NEW MEXICO AND CHILE

Let's talk chile.

- Chile represents New Mexico's diverse people, history, and traditions.
- Chile is an excellent source of fiber and Vitamins A & C.
- Chile adds flavor to so many dishes.

*What's your favorite way
to eat green chile?*

THE CHILE PEPPER INSTITUTE

The Chile Pepper Institute (CPI) at New Mexico State University :

- New Mexico has had ongoing chile pepper research since 1888 - Dr. Fabian Garcia .
- The only international organization devoted to education, research, and information about chile peppers.
- **Store-books, merchandise, food, seeds**
 - New location -Fabian Garcia Research Center, 113 New Mexico State Rd 101, Las Cruces or online: Chile Pepper Institute (cpi.nmsu.edu).
 - Proceeds go to fund chile pepper research and education.
- **Teaching and Demonstration Garden**
 - Also located at the Fabian Garcia Research Center.
 - Chile Research-over 150 Varieties of Chile Peppers.
 - Visitors Welcome-Guided or Self- Tour
575-646-3028.
 - Best time to visit July-late September. They are open into November. **Annual Field Day Oct. 9th**



FUN FACT

The Nu Mex Chile “Espanola Improved” that was developed by NMSU is:

- A. Heavy for its size.
- B. Grown at the International Space Station.
- C. In a national museum.

Use the chat to enter A, B, or C. State your name to be entered in a drawing to win a chile cookbook!

CHILE IN SPACE

- NuMex ‘Espanola Improved’ chile was developed at New Mexico State University and is part of NASA’s space missions aboard the International Space Station.

SELECTING CHILE

- Select Chile that is :
 - Mature.
 - Heavy for its size.
 - Bright green in color, fresh, and crisp.
- As green chile matures they turn red.
 - The skin thins out over time-thin skin doesn't mean quality loss.
- Avoid chile that has shriveled skin, mold, soft spots, and bruises.

PREPARING CHILE

- Chile has a tough outer skin that is not easy to chew or digest and can affect texture and appearance when cooking.
- The tough outer skin is why chile is often roasted and peeled.
- When preparing chile, practice safety. Protect hands by wearing gloves, washing hands, and not touching your eyes to prevent burning.
 - If burning hands, you can place your hands in vinegar.
 - Vinegar is acidic.
 - Capsaicin (heat of the oil) is alkaline.
 - Scoville Heat Units (SHUs). Green chile can vary from 1,000-8,000.
 - The Lumbre is the hottest (9,000-10,000 SHUs) in NM and was developed by the son who created Big Jim.

BLISTERING/ ROASTING CHILE

Methods of Roasting

- Oven or broiler method
 - Hot oven or broiler 400-450 degrees (F) for 6-8 minutes until skin blisters.
- Stovetop method
 - Cast iron skillet.
 - Med-High heat.
- Outdoor grill method
 - Gas grill heated to 400-450 degrees.
 - Over open flame on a grate or in a cast iron skillet.
- Practice safety
 - Gloves and tongs.
 - Plan for smoke.

BLISTERING/ ROASTING CHILE

- Wash and dry chile.
- With a knife, make a small slit in the side of the chile to allow steam to escape.
- Turn frequently to ensure even blistering.
- Remove from heat and spread on a flat surface in a single layer to cool before peeling.
- For a crisper chile, dip chile into ice water as it is removed from heat.

BLISTERING/ROASTING CHILE

Commercial Roasting

- Larger quantities.
- When storing and transporting, use a food safe container. Avoid using non-food safe plastic bags due to chemicals when the bag is exposed to heat.
- Transport in a chilled chest.
- Freeze, cook, or refrigerate roasted chiles within **2 hours of roasting**.
- CAUTION:
 - **Roasting is not considered cooking.**
 - Reaching an internal temperature of 135 degrees is required for safely cooking chile.

Why is the pH scale important when handling food?

FOODBORNE ILLNESS

Listeria (L. monocytogenes)

- Found in soil and water. **Roasted green chile is considered a raw vegetable.**
- Survives in cold temperatures.
- Grows in refrigerated temperatures.
- Mortality rate 20-30%.
- CDC states 1600 people are diagnosed with Listeria a year.
 - About 260 die.
 - 94% hospitalization rate.
- At risk populations
 - Children and elderly.
 - Immunocompromised.
 - Pregnant.
- Symptoms
 - Fever, muscles aches, nausea, diarrhea.
 - Severe include convulsions, confusion, loss of balance, headache.
 - Begin within 2 weeks.
- **Freezing DOES NOT eliminate Listeria.**

FREEZING CHILE

- After roasting, skin may be removed before or after freezing.
 - When peeling, peel and rinse in a bowl to remove the peel that may contain carcinogens.
- Chile can be cooked or uncooked before freezing.
- Chile can remain whole or chopped.
- Cool chile to 70°F within **2 hours** of roasting to chill.
- The best flavor and texture is achieved the sooner you freeze the chile.
- Freeze within 3 days.

FREEZING CHILE

FOOD SAFETY

STORING SAFELY

- Cool chile to 70°F within **2 hours** of roasting to chill and below 40°F within 4 hours if freezing.
- If the chile is still warm when placed in freezer it effects the temperature in the freezer and the chile freezes slowly, which may cause bacteria to grow and become dormant.
- When chile thaws bacteria will revive and can cause illness.

FREEZING CHILE

STORING SAFELY

- Types of Containers
 - Freezer Bag (lay flat to save space).
 - Remove as much air as possible to reduce the amount of surface crystallization.
 - Vacuum Bag (lay flat to save space).
 - Freezer Container with lids (no deeper than 2 inches to allow for quick cooling).
 - Home freezers cannot efficiently and quickly remove heat if packages are too large.
 - Chile will freeze slowly and may allow bacteria to grow.
 - Chile will become mushy in texture and form ice crystals.
- Label with month and year.
- Label if cooked or uncooked.
- Use within a year.

GENERAL FREEZER FOOD SAFETY

STORING SAFELY

- Keep frozen food at or below 0°F.
- If power failure, maintain cold temperatures by keeping doors closed.
- A full freezer will hold the temperature longer than a half full freezer for 48 hours **if the door remains closed.**
- If prolonged power outage, use ice or dry ice. 50 pounds of dry ice per 18-cubic full freezer will maintain frozen temperatures for 2 days.
- Frozen food that has thawed and has been held at 40 degrees or below for 2 hours can be refrozen, however, check each items temperature and look for mold, smell, or slime. Never taste to determine safety.
- **WHEN IN DOUBT, THROW IT OUT!**

GENERAL FREEZER FOOD SAFETY

THE BIG THAW.

- **Refrigerator thaw**
 - Plan ahead to thaw food-at least 24 hours less than 2-3 days.
- **Cold Water thaw**
 - Submerge in cold water, change every 30 minutes
 - Can use running water must be able to move food particles.
 - Cook foods before refreezing.
- **Microwave Thaw**
 - Food should be cooked before refreezing and cook immediately after thawing.
- **Cooking without Thawing**
 - Cooking will take 50% longer.

*What is missing from this list
that is a common practice at
home?*

QUESTIONS?



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New Mexico State University
aces.nmsu.edu

THANK YOU!

Please take a few minutes to fill out our survey.
There are two ways to take the survey:

Access the link:

https://acesnmsu.az1.qualtrics.com/jfe/form/SV_6hVi6WOG2yOpYwu

Scan the QR code:



RESOURCES

Center for Disease Control (2024).

<http://cdc.gov>.

New Mexico State University (2024). Chile

Pepper Institute. <https://cpi.nmsu.edu/>

New Mexico State University Extension Guide E-311, Freezing Green Chile

(http://aces.nmsu.edu/pubs/_e?E311.pdf).

