Preserving Red Chile

DEHYDRATING RED CHILE

JERKY, POWDERS, AND CREATIVE USES

Amber Benson, MBA
NMSU Assistant Professor
Family Consumer Science Agent
Bernalillo County Cooperative Extension Service Office

Crystal Garica-Anaya, MBA
NMSU Assistant Professor
Family Consumer Science, 4-H Youth Development Agent
Valencia County Cooperative Extension Service Office

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Objectives

- Source of heat in chile peppers.
- New Mexico chile, a RAW FOOD!
- Safe and effective techniques for dehydrating New Mexico chile.
- Proper food safety and drying methods for New Mexico chile jerky.
- Best practices for handling, packaging, and long-term storage of dried New Mexico chile.
- Experiment with a variety of dehydrated red chile products.

Resources

- USDA Complete Guide to Home Canning

  How Did We Can? | USDA Complete Guide to Home Canning, 2015 revision
- National Center for Home Food Preservation

  Home Page - National Center for Home Food Preservation
- Cooperative Extension Nationwide Publications
- NMSU Publication E-327: Using Chile to Make Ristras and Chile Sauce

  Using Chile to Make Ristras and Chile Sauce | New Mexico State University - BE BOLD. Shape the Future.
- So Easy to Preserve

  So Easy to Preserve | Food Preservation | Food | Extension
- NMSU Publication E322: Drying Foods

  https://pubs.nmsu.edu/_e/E322/
- University of Missouri Publication: Introduction to Food Dehydration

  https://extension.missouri.edu/publications/gh1562
- Chile Pepper Institute

  https://cpi.nmsu.edu/

Overview of a Chile Pepper

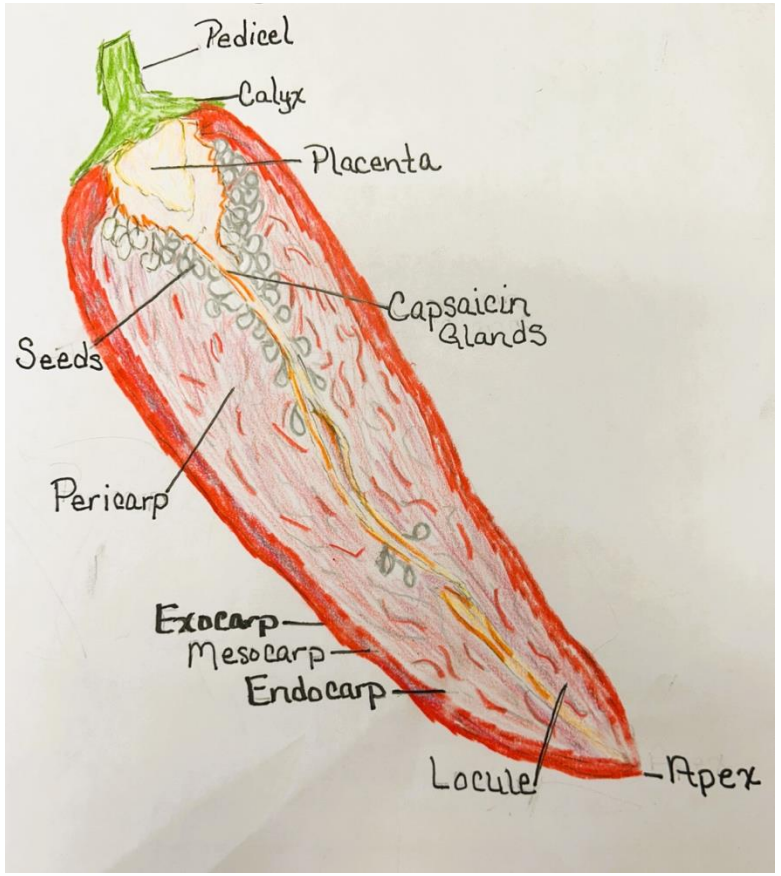


Image: Madeline Gurney

What is a Chile Pepper?

- A fruit from plants of the CAPSICUM genus
- Used in cooking for flavor, color and heat
- Grown globally but nothing beats our NM Chile

Fun Fact:

Capsaicin evolved to **deter mammals** but **doesn't affect birds**, which helps spread seeds!

HEAT

Scoville Heat Scale

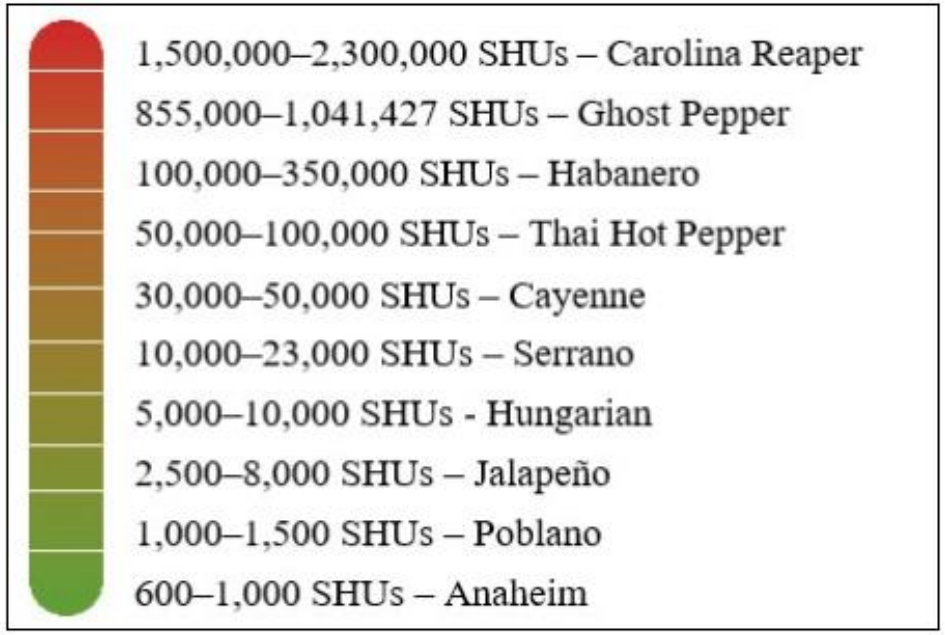


Image: Michigan State University Extension

Where Does the Heat Come From?

- Capsaicin: the active compound responsible for the “spicy” sensation
- Found mostly in the white membranes (ribs) and seeds
- Triggers pain receptors—not taste buds!
- Scoville Heat Scale
  - The Scoville Heat Scale is a measurement system used to determine the spiciness of heat of chile peppers.
  - Developed by Wilbur Scoville in 1912.
  - Measures the capsaicin, the chemical compound that causes the burning sensation.
  - Heat is rated in Scoville Heat Units (SHU).
  - Tested By: A solution of the pepper extract diluted with sugar water. Tested by a panel of tasters until they could no longer detect heat. The number of dilutions = the Scoville Rating.

Let's Talk Dehydrating

What is Dehydration?

Removing moisture from food to extend shelf life and prevent spoilage.

Why is it important?

- Stop bacteria, mold, and yeast from growing.
- Reduces food weight for easy storage and shipping.
- Preserves flavor and nutrients (depends on method).

Let's Talk Dehydrating

Foods can be dehydrated by various means. Dehydration, like other preservation methods, requires energy. Unless sun drying is possible where you live, the energy cost of dehydrating foods at home is higher than for canning and, in some cases, more expensive than freezing.

- **Electric dehydrators** produces a better-quality dried product than any other method of drying. Electric dehydrators are self-contained units with a heat source, a ventilation system, and trays to place the food on. Models vary in sophistication and efficiency, so choose options that you desire. Although an electric dehydrator requires a fairly high initial investment, it maintains low temperatures and uses less energy than an oven. When using a dehydrator, load food on trays in single layers so that pieces do not overlap. This arrangement allows air to circulate through the trays. Large pieces, such as apricot halves, should be turned halfway through the drying time. Pieces near the sides of the tray should be moved to the center. Stir small pieces every one to two hours, separating bits that stick together. It may be necessary to rotate the trays within the dryer at least once during the drying period to ensure uniform drying. Follow manufacturers' guidance for heat settings for specific foods.
- **Oven drying** requires little initial investment, but continual use of an oven for drying is not recommended because ovens are less energy-efficient than dehydrators, and energy costs tend to be high. Overall, oven-dried foods are usually darker, more brittle, and less flavorful than foods dried by an electric dehydrator. An oven takes 2 to 3 times longer to dry food than a dehydrator. Drying in an oven is slower because ovens do not have built-in fans for the air movement It is difficult to maintain a low drying temperature in an oven, and foods are more susceptible to scorching at the end of the drying period. Check oven settings to see if it has a reading as low as 140° F or a "warm' setting. If the thermostat does not go this low, your food will cook instead of drying. Use an oven thermometer to test the temperature of the oven at its lowest setting. Trays upon which the food is placed must be at least 1½ inches narrower than the inside of the oven to allow for air circulation. Allow at least 2½ inches between trays and 3 inches of free space at the top of the oven for good air circulation. About 4 to 6 pounds of food can be dried in an oven at one time. Place food on drying trays or on wire cooling racks covered with cheesecloth or nylon netting to allow easy removal of dried food. Pieces of food should be in a single layer. Do not place food directly on oven racks. Cookie sheets are acceptable only for fruit leathers, which do not require good air circulation. Keep the oven door propped open at least 4 inches. Place a fan outside the oven door to aid air circulation. Move it from side to side occasionally. The room should also be well ventilated. Oven drying, particularly if a fan is used, should be done with caution if small children are around. Maintain the temperature at 140° F. Watch the temperature even more carefully toward the end of the drying process. To prevent scorching, lower the temperature to 120° F if possible. Examine the food often and turn trays frequently, removing foods as they dry.
- **Microwave drying** is a quick way to dry small quantities of herbs and some leaf vegetables, but it is not successful for most other foods. Food that has been microwave-dried often tastes overcooked rather than dried. Follow manufacturers' guidance.
- **Air drying** can be done indoors in a well ventilated attic, room or screened-in porch. Herbs, hot peppers and mushrooms are the most common air-dried items. Herbs and peppers are not pretreated, but simply strung on a string or tied in bundles and suspended until dry. Enclose them in paper bags to protect them from dust or other pollutants.
- **Sun-drying is not recommended in high-humidity areas.** Foods dried in the sun can take 3–4 days to dry; if the humidity is high, as is generally the case in Missouri, the food will mold before it dries. Sun-drying requires constant exposure to direct sunlight during the day and a relative humidity of less than 20%. These conditions are found only in the southwestern states.

Benefits of Dehydrating NM Chile

Longer Shelf Life

- Removes moisture that bacteria and mold need to grow.
- Foods can last months or even years when stored properly.

Reduces Food Waste

- Dehydrate excess before it spoils.

Space-Saving & Lightweight

- Dried foods are lighter and smaller.
- Ideal for hiking, camping, or an emergency kit.

Saves Money

- Buy/Harvest in bulk and dehydrate at home.
- Avoid paying for expensive packaged snacks.

Keeps Nutrients (with the right method)

- Low-temp drying preserves vitamins and minerals.

Easy, Portable Snacks

- Make your own jerky.
- No refrigeration needed.

Bonus Tip: Dehydrated ingredients are perfect for soups, trail mixes, smoothies, dips, and backpacking meals.

Comparison: Red v Green

Aspect	Green Chile	Red Chile
Maturity at Harvest	Uripe	Fully Riped
Stem	Firmer, greener, more hydrated	Drier, may turn brown or woody
Seeds	Pale, less developed	Darker, fully developmen, often more viable
Capsaicin	Moderate to Low (depending on variety)	Typically higher due to full ripening
Flavor	Milder, more meaty	Richer, Deeper Flavors, Smoky
Drying Method	More Controlled	Traditional (Sun/Air)
Shelf Life	Long, if moisture-proof	Long, if well preerved

Green Chile Dehydrating Process

Image: NMSU Chile Pepper Institute

1. Choose Fresh, Quality Green Chiles

- Use firm, unbruised, fully grown chiles
- Avoid moldy or overripe peppers

2. Wash & Dry Thoroughly

- Rinse under clean running water
- Pat dry to prevent steam during dehydration

3. Remove Stems & Slice

- Cut into halves, strips, or rings
- Removing seeds is optional (they hold heat!)

4. Process (Optional)

- Place green chiles in a saucepan with water.
- Bring to a boil.
- Boil green chiles for a minimum of 10 minutes.

Green Chile Dehydrating Process

4. Prepare for Dehydration

- Arrange chiles in a single layer on dehydrator trays.
- Set the temperature to 125-140°F. The drying time will vary, but generally takes 8-24 hours, depending on the size of the chiles and the dehydrator.

5. Storage

- Once the green chiles are dried, let them cool completely.
- Ensure chiles are brittle.
- Place them in a large, airtight container or freezer bags in a cool, dry, dark place.

Red Chile Dehydrating Process

1. Harvest Quality Red Chiles

- Use firm, unbruised, fully grown chiles.
- Avoid moldy or bruised peppers and as straight as possible.
- Ensure the stem is sturdy.

2. Ristra Process

- Materials Needed: heavy-duty twine/string (baling twine), 130 pods

3. Hang to Sun/Air Dry

- The drying time will vary, depending on the size of the chiles, sunlight, and humidity.

Image: NMSU Chile Pepper Institute

Red Chile Dehydrating Process

Two-Foot New Mexican Pod Type Ristra

Start with a 5-foot double strand of a durable, heavy twine or string, like baling twine. Hang the double strand from a sturdy area like a rafter or hook. Fror double strand, measure down 3 feet and tie both strands together in a knot, allowing the extra 2 feet of twine to hang below. This method allows you to st bottom of the ristra and work your way up.

Using three pods at a time, place the stems in between the double strands on top of the knot that was made at the 3-foot mark. Using the extra 2 feet of t knot, tie a half-hitch or overhand knot to secure the three stems to the double strand of twine above the knot (Figure 1). Then tie another half-hitch knot t the pods; this will ensure a tight, secure ristra (Figure 2). Keep adding pods in this same manner three or four at a time to fill in and make a nice, full ristra, secure with two half-hitch knots each time. If you run out of loose tying strands, you will need to add another section of twine to your tying end; just cut ar strand and tie it to the current tying strand. After all pods are secured, tie off the top and make a 2- or 3-inch loop that will hang your ristra.

If using whole cornhusks for the topper, fray or comb through the cornhusks to separate. Then at the halfway point of the husk, tie the frayed husk to the t ristra, allowing the husk to fan out over the top of the ristra. The cornhusk top will hide the loop that hangs your ristra.

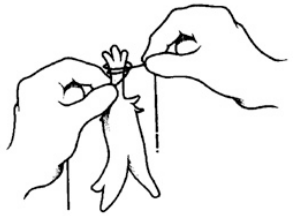


Figure 1. Tie a half-hitch or overhand knot to secure the pods to the main double strand.

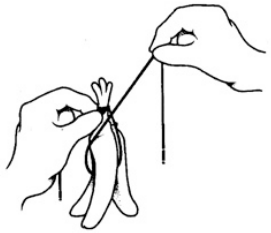


Figure 2. Tie a second half-hitch or overhand knot to ensure a tight, secure ristra.

Image: NMSU Chile Pepper Institute

Red Chile Ristra

What is a Ristra?

In Spanish, the word “ristra” means a string. Ristras are a way to dry and preserve chile.

To Lacquer or Not to Lacquer?

- People use lacquer on chile ristras primarily for decorative purposes.
- Extends the lifespan and enhances their appearance.

NOTE: It is crucial to understand that lacquered ristras are no longer safe for consumption.

Recommendations for Using Ristra

CULINARY USES

1. Cooking Ingredient: Break off individual chiles to use in soups, stews, and sauces.
2. Chile Powder: remove seeds/stems, dry roast, and grind into chili powder or spice blends.
3. Rehydration: Soak chiles in hot water to rehydrate them and blend for sauces or marinades.

DECORATIVE USES

1. Southwest Décor: hang in the kitchen, patios, or entryways as a symbol of hospitality or abundance. Rustic flair.
2. Holiday and Seasonal Displays: use for fall or harvest decorations. Great centerpieces for Dia de los Muertos or Thanksgiving.
3. Wall Art or Wreath Base: can be part of a homemade wreath or hung on a wooden plaque or rustic frame.

CULTURAL AND SYMBOLIC USES

1. Good Luck Charm: traditionally believed to bring good fortune and protect the home from negative energy.
2. Housewarming Gift: often given as a gift to new homeowners to symbolize abundance and warmth.

Image: NMSU Chile Pepper Institute

NOTE: Hang in a dry, well-ventilated area, keep out of direct sunlight to preserve color, and avoid moisture to prevent mold.

Red Chile Dehydrating Machine Process

1. Harvest Quality Red Chiles

- Use firm, unbruised, fully grown chiles.
- Avoid moldy or bruised peppers and straight as possible.
- Ensure the stem is sturdy.

2. Wash & Dry Thoroughly

- Rinse under clean running water

3. Placement

- Arrange the peppers on the dehydrator trays in a single layer, ensuring they have enough space for air circulation.
- Overcrowding can lead to uneven drying.

4. Temperature and Time

- Set the dehydrator to a low temperature, ideally between 25-135°F.
- Drying time can vary from 4-24 hours or even longer, depending on the pepper size and your dehydrator, so monitor them.

5. Storage

- Once completely dried and cooled, store the peppers in an airtight container in a cool, dry place.

Industrial & Culinary Applications

Dehydrated green and/or red chile is a versatile ingredient with numerous industrial and culinary applications.

INDUSTRIAL USES:

- Spices & Seasoning Blends
- Instant/Convenience Foods
- Snack Production
- Frozen or Packaged Meals
- Powder for Sauces and Marinades
- Cheese & Dairy Applications

CULINARY USES:

- Rehydrated for Recipes
- Chile Powders & Flakes for Seasoning
- Baking
- Green Chile Oil or Infused Butters
- Chili and Sauce Starters
- Powder or Flakes for Marinades

Quality Control & Best Practice of Storage

Quality Control Tips

- Inspect before drying: use fresh, firm, unspoiled.
- Uniform drying: if slicing ensure consistent.
- Dryness test: finished products should be brittle, with no moisture inside.
- Monitor temperature: maintain proper drying temps (125-135°F) to preserve quality and prevent case hardening.
- Check for contamination: watch for mold, discoloration, or off odors during and after drying.

Best Practices for Storage

- Use airtight containers: store in glass jars, vacuum-sealed bags, or mylar pouches with oxygen absorbers.
- Cool, dark, dry place: ideal storage temps 50-70 °F. Try to avoid heat, light, and humidity.
- Label clearly: include product name, drying date, and batch number for traceability.
- Rotate stock (FIFO): use the FIFO method. First-in, first-out to ensure freshness.
- Periodic re-checks: inspect stored product monthly for signs of spoilage or moisture.

NOTE: For optimal long-term storage USDA recommends that even dehydrated food be placed in a fridge or freezer.

Green Chile Jerky

Ingredients:

1 lb of roasted and peeled green chiles

Any seasoning desired

Instructions:

1. Roast and peel green chile.
2. Slice chiles down the middle and remove any seeds.
3. Place chiles in a saucepan with water. Boil chiles for a minimum of 10 minutes. Cool until safe to handle with hands.
4. Arrange chiles in a single layer on dehydrator trays. Sprinkle with salt, garlic salt, or other seasoning you wish to try.
5. Set the temperature to 125-140°F. The drying time will vary, but generally takes 8-24 hours, depending on the size of the chiles and the dehydrator.
6. Once the green chiles are dried, let them cool completely. Place them in a large, airtight container or freezer bags in a cool, dry, dark place.

Green Chile Salt

Ingredients:

½ cup kosher salt (or sea salt)

2-3 TBS dried green chile flakes or powder

1 tsp garlic powder

1tsp onion powder

½ tsp smoked paprika

Instructions:

1. Mix all ingredients until well combined.
2. For finer texture, pulse the combined mixture in a spice grinder or food processor. This step will help incorporate flavors more evenly.
3. Transfer mixture to an airtight jar or spice shaker.
4. Label with date and store for 3-6 months.

Usage Tip: Sprinkle on grilled corn, roasted potatoes, eggs, avocado toast, popcorn, fries, tortilla chips, meats (chicken, beef or pork) or even cocktail glasses

Red Chile Salt

Ingredients:

½ cup kosher salt (or sea salt)

2-3 TBS dried red chile powder

1/2 tsp garlic powder

½ tsp onion powder

½ tsp smoked paprika

1 tsp orange or lime zest

½ tsp sugar

Instructions:

1. Pre-heat oven to 200 °F
2. Mix orange or lime zest with salt. Spread mix thinly on parchment paper and bake at low temperatures for 20-40 minutes (depending on the moisture of the zest.
3. Once cooled. Mix all ingredients until well combined.
4. For finer texture, pulse the combined mixture in a spice grinder or food processor. This step will help incorporate flavors more evenly.
5. If completing step 4, you will need to place the mixture on a baking sheet and cook for another 20 minutes to ensure the zest is well dehydrated.
6. Let cool and transfer mixture to an airtight jar or spice shaker.
7. Label with date and store for 3-6 months.

Usage Tip: Sprinkle on grilled corn, roasted potatoes, eggs, avocado toast, popcorn, fries, tortilla chips, meat rubs or marinades, chocolates or even cocktail glasses

Any Questions?

Interested in Master Food Preservers

What is a Master Food Preserver?

Applications for the 2026 Master Food Preserver Program will open in October 2025.
Do you enjoy the art and science of food preservation? Would you like to develop expertise in food preservation? Consider becoming a Master Food Preserver.

Master Food Preservers serve to extend Extension's education programs in food preservation to adults. The Master Food Preserver serves as a volunteer and as a resource in the community to provide the public with research-based information from New Mexico State University Extension and USDA.

Direct questions about the program to the instructor, Amber Benson, at ambenson@nmsu.edu.

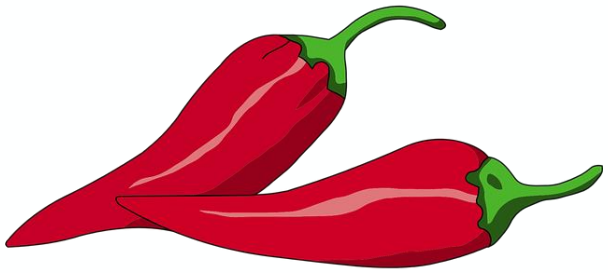
Visit: https://bernalilloextension.nmsu.edu/foodhealth/food-preserver.html

Ristra Making Workshop

Happy Experimenting!

TAKE A MOMENT TO SHARE YOUR THOUGHTS!

We hope you enjoyed your class! Please take a moment to complete our short survey—your feedback helps us better understand what programs our community wants to see. Your input is valuable and directly supports future programming and funding decisions. THANK YOU!



Contact Information

Amber Benson
Bernalillo County
Title: Agent | Family and Consumer Science
Office Phone: 505-243-1386
Email: ambenson@nmsu.edu

Crystal Garcia-Anaya
Valencia County
Title: Agent | Family and Consumer Science
4-H Youth Development
Office Phone: 505-565-3002
Email: anayacry@nmsu.edu