



Mexican Mole: Promoting Healthy Meals through Cultural Traditions

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Figure 1: Tomatillos (Mexican husk tomato) and various types of chile peppers

Traditional Mexican food is rich in vegetables, chicken, pork, seafood, and spices. Corn, beans, squash, tomatillos (the Mexican husk tomato see Figure 1 - left), and various types of chile peppers¹ (Figure 1 - right) are among the most important ingredients in Mexican cuisine.^{1,2} In 2010, Traditional Mexican cuisine was added to the Representative List of the Intangible Cultural Heritage of Humanity by United Nations Educational, Scientific and Cultural Organization (UNESCO). Intangible cultural heritage is a culture passed on in the form of traditions, skills, abilities, knowledge and practices. It represents “not only inherited tradition from the past, but also contemporary rural and urban practices” that is recognized and maintained and transmitted by communities, groups and individuals. An understanding of the intangible cultural heritage encourage us the awareness of its significance and to encourage mutual respect for other ways of life.³

One of the traditional foods served in Mexico is mole (pronounced: MOH-lay) sauce, which is served not only

Traditional Mexican cuisine is a comprehensive cultural model comprising farming, ritual practices, age-old skills, culinary techniques and ancestral community customs and manners. It is made possible by collective participation in the entire traditional food chain: from planting and harvesting to cooking and eating. (Read More >> UNESCO, website⁴ <http://www.unesco.org/culture/ich/en/RL/traditional-mexican-cuisine-ancestral-ongoing-community-culture-the-michoacan-paradigm-00400>).

at daily meals, but also on very special occasions, such as weddings and holidays. Mole sauce may have over 20 ingredients (see the recipes below) with sweet to spicy flavors, and its consistency is like soup or thick like barbeque sauce. Mole sauce often poured over chicken, pork, and turkey. Mole recipes are very labor-intensive, time consuming, and

require many ingredients. For that reason, prepared mole sauce is available in local or Mexican grocery stores. This article introduces the popular mole sauces that are typically served in three regions (the North, Central, and South) of Mexico. The article also shows how this popular Mexican food which reflects traditional foods of the land can promote healthy meal cooking.

Three Regions of Mexico – Northern, Central, and Southern

Mexico is the 14th largest country in the world by the sum of all land and water areas. Foods and cuisine vary from region to region. Food production in each region is influenced by various ingredients, which are available locally, different climates and ethnic differences. Mexico is divided into three regions: Northern, Central, and Southern Mexico. Each region varies in climate and in geographical regions including mountain, desert, forests, and tropical jungles.⁵ (See Figure 2 – Regions of Mexico)

Northern Mexico (Figure 2- Green section of the Map): The northern region stretches from the west coast of Baja California peninsula to the east coast of Tamaulipas and stretches down to Sinaloa and Durango. The region consists of nine different states and is home to more than 25 million people. This region is known for its desert-like region with low-lying coastal areas which are typically tropical, hot and humid. Furthermore, the northern region is also known for having severe storms in summer afternoons followed by hail. Northern Mexico is distinguished by the consumption of beef, goat, cheese, dried fruits and vegetables (especially chile peppers), tortillas (corn or flour), and seafood which is common in the coastal states.

Central Mexico (Figure 2 – White section of the Map): The central region consists of 16 different states and is home to the third largest city in the world, Mexico City. Mexico City itself has a population of 8.8 million people, and an altitude of 2,300 meters (7,546 feet) above sea level. It lies in the Valley of Mexico (*Valle de Mexico*) and this valley is in the high plateaus in the center of Mexico. The entire central region of Mexico consists of about 57 million people and typically has an average temperature of approximately 94 degrees Fahrenheit. This region is known for its famous chile peppers, *Chile poblanos*, and for its consumption of fruits, such as jicama (*Mexican yam bean or Mexican turnip*), and vegetables such as avocados and tomatoes.

Southern Mexico (Figure 2- Red section of the Map): The southern region of Mexico is made up of six different states and consists of the Yucatan Peninsula, which separates the Caribbean Sea from the Gulf of Mexico. Southern Mexico is well known for its jungles, forests, temples, and seacoast cities such as Cancun. This region forms the border between Mexico and Central America and is home to the native Mayan culture which is still active today. The south region is inhabited by about 12 million people. Southern Mexico’s climate is much more humid than other regions as it is surrounded by two large bodies of water; however there are also dry areas within this region. During hurricane season, strong storms often impact the Yucatan Peninsula. This region is also characterized for its wide use of spices such as allspice, cinnamon, epazote, Mexican oregano, and consumption of turkey, corn, and chile peppers such as the habanero.

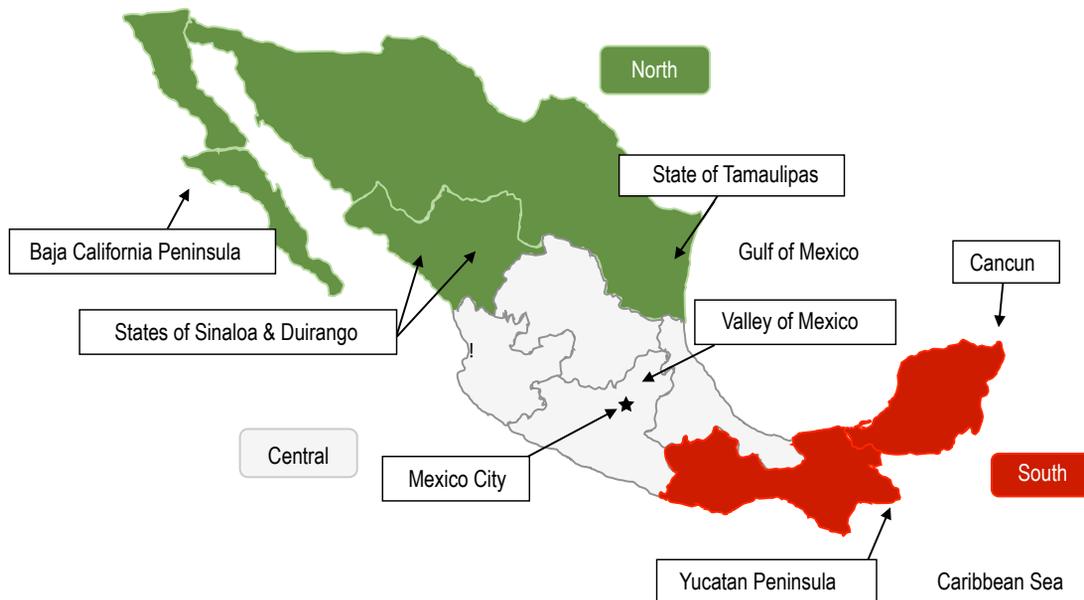


Figure 2: Regions of Mexico

NORTHERN MEXICO



The Northern Region is distinguished by its high beet consumption.



Tortillas de harina (flour tortillas) are a popular side dish, accompanied with rice and beans.

CENTRAL MEXICO



Wide varieties of beans are consumed, however black beans are one of the most commonly consumed beans in the Central Region.



Dried chiles and dried fruits are essential in the Central cuisine as they are commonly used in several dishes such as *chorizo* (a spicy sausage-type of meat), *mole*, and several other dishes.

SOUTHERN MEXICO



Corn, *maiz*, dates back in the Mexican cuisine to the Mesoamericans.



Seafood is commonly consumed in all coastal regions of Mexico, however it is most popular in the Yucatán Peninsula where most states are near the sea.

Figure 3: Common foods of the three regions of Mexico

Variety of Mole Sauces

Mole, like many other Mexican foods, is often mistakenly believed to be high in fat and sodium and unhealthy. Below, several healthier mole recipes are introduced (for example, substituting lard with olive oil, and cutting down portion sizes to make the recipes healthier). Although, each Mexican woman and man may have her or his own mole recipe, probably passed down within the family, several varieties of mole sauces are typically served in the three regions of Mexico.

Three recipes (mole poblano, mole verde, and mole rojo) are introduced in this article. Each mole is unique in color (brown, green and red), flavors and ingredients, and they are relatively easy to make. There are many popular mole sauces; such as mole amarillo (pumpkin color mole, spicy, soupy), mole coloradito (brown mole, contain mashed ripe plantains), mole

manchamanteles (bright red mole, sweet, spicy, fruity, contain pineapple), mole negro (black mole, spicy, contains chocolate).

Mole making requires time and many ingredients, such as cloves, garlic, nuts, almonds, pumpkin seeds, and dried chile peppers, such as pasillas, poblanos, and mulatos. These Mexican-American foods can be found in grocery stores in neighborhood with a majority Hispanic population, farmers market, and specialty food markets.

Prepare the ingredients and have them in place before starting the recipe. It may take 60-90 minutes to complete a homemade mole sauce. When working with hot chile peppers, wear plastic or rubber gloves. Avoid rubbing eyes, nose or lips after handling hot peppers.⁶ Wash hands, knives, and cutting board thoroughly before starting and after working with hot peppers.

Because of the wide variety of ingredients, mole sauce can be adjusted to individual tastes. There is no one way to make mole sauce.

MOLE POBLANO (A TRADITIONAL NORTHERN MEXICO RECIPE)

Mole Poblano is commonly consumed in the Northern Region of Mexico, as well as throughout the United States. This mole is unique from the other approximately 300 mole sauces, because it was the first type of mole ever invented and one that contains chocolate.

Yield ~4 cups; Serves 5-7 people;

Time to make ~90 minutes;

Estimated cost to make ~\$ 5.00

Ingredients:

- 2 dried pasilla chiles (dark brown or black, with wrinkled skin – earthy and mildly spicy taste)
- 2 dried mulato chiles (dark black wrinkled skin – sweeter, chocolatey flavor)
- 3 poblano chiles (dark green with shiny skin, curvy – fruity, mild to very hot)
- 1 chipotle pepper in adobo sauce (shown in Figure 4, a can in chipotle pepper in adobo sauce)
- ½ small bread loaf (size of 5" x 3" x 3"), torn into ~ 1 inch pieces
- 3 small tomatoes
- 2 tablespoons of olive oil
- ½ cup of pumpkin seeds
- ¼ cup of almonds
- ¼ cup of peanuts
- ½ onion, sliced
- 1 tortilla (corn or flour), torn into ~ 1inch pieces
- 1 garlic clove
- 1 pinch of black pepper
- 1 pinch of anise seeds
- 1 pinch of cinnamon powder or ⅓ of cinnamon stick
- 9 tablespoons of cocoa powder
- 3 tablespoons of olive oil
- 2 tablespoons of vinegar
- 1 ½ cups of chicken broth
- 4 tablespoons of sesame seeds, toasted to sprinkle at the end



Figure 4: Can of chipotle pepper in adobo sauce

Directions:

1. In a medium size pot with water, boil the two types of dried chile peppers (chile pasillas and chile mulatos) for about 5 minutes or until they soften.
2. While the peppers are boiling, sauté 3 poblano chile peppers, 1 chipotle pepper in adobo sauce and ½ to 1 cup of bread pieces in a pan without oil on medium heat stirring every few minutes to avoid burning for about 5 minutes. Set them aside.
3. Wash then, sauté 3 tomatoes without oil on medium heat in a separate pan. Set them aside.
4. Once done boiling, place chiles in a plastic bag (this will allow for the chile peppers to peel easier) and allow the chiles to cool. Once cool, peel the skin off of the chile peppers and remove all of the seeds. Set the chile peppers aside.
5. On medium heat in a sauté pan with 2 tablespoons of olive oil, add ½ cup of pumpkin seeds, ⅓ cup of almonds, ⅓ cup of peanuts, all 3 types of chile peppers (from steps #2 & #4), sautéed tomatoes (from step #3), ½ onion, tortilla pieces, 1 garlic clove (whole or cut into 2-3 pieces), 1 pinch of black pepper, 1 pinch of cinnamon, and 1 pinch of anise seeds.
6. Mix 9 tablespoons of cocoa powder with 3 tablespoons of olive oil in a cup.
7. In a conventional blender, blend the cocoa mix (from #6), 2 tablespoons of vinegar, 1 ½ cups of chicken broth, and all of the ingredients from step #5.
8. The sauce is then ready to be served with any choice of meat, such as lean pork, chicken, or turkey. Sprinkle lightly toasted sesame seeds on top.

Mole Sauce per Serving* (~ ⅔ cup/serving) Calories, 314 kcal; Carbohydrates, 23g; Protein, 11g; Fat, 25g; Cholesterol, 0mg; Fiber, 9g

* Numbers may vary according to variety of peppers used



Figure 5: Mole Poblano

MOLE VERDE (A TRADITIONAL CENTRAL MEXICAN RECIPE)



Figure 6: Mole Verde (green mole sauce)

Mole Verde (green mole sauce) is prepared in several different ways depending on the region in which it is being consumed. In the central region, it is prepared slightly spicier than the Mole Poblano, as the central region is known for their spicier foods. One main ingredient that makes it spicier is the jalapeño chile.

Yield ~4 cups; Serves: 5-7 people;

Time to make ~90 minutes;

Estimated cost to make ~\$ 2.70

Ingredients:

- ¼ cup of almonds
- ¼ cup of pecans
- ¼ cup of pumpkin seeds
- 4 husk tomatoes (tomatillos – See Figure 1)
- 2 poblano chiles (dark green with shiny skin, curvy – fruity, mild to very hot)
- 2 jalapeños (green with shiny skin, cone-shape – moderately to very hot)
- ½ medium yellow onion, sliced
- 1 garlic clove
- 2 tablespoons of olive oil
- 1 cup of chicken broth

Directions:

1. In a blender or coffee grinder, grind almonds, pecans, and pumpkin seeds until they become a fine powder. Set nut powder aside.
2. Wash tomatillos (with husks) and chili peppers. Roast in a sauté pan without oil on medium heat, stirring every few minutes to avoid burning for about 5-7 minutes. Once everything is roasted, remove from heat and allow to cool. Peel off the skin of the poblano chile peppers and remove the seeds, as well as take off the leaves from the tomatillos.
3. In a blender, blend ½ medium yellow onion, 1 garlic clove (whole or cut into 2-3 pieces), sautéed poblano chile peppers, tomatillos, and jalapeños from previous steps. This makes blended green sauce.
4. Heat a large saucepan with 2 tablespoons of olive oil over medium heat, add the nut powder (from step #1), blended green sauce (from step #3), and 1 cup of chicken

broth. Continue cooking over medium heat, stirring frequently for 10 minutes or until the sauce starts to thicken. Dilute with more broth or water if desired.

5. The sauce is then ready to be served on cooked lean pork, chicken, or turkey. Serve with corn or flour tortillas or on a bed of rice.

Mole Sauce per Serving* (~ ⅔ cup/serving) Calories, 132 kcal; Carbohydrates, 5g; Protein, 4g; Fat, 11g; Cholesterol, 0mg; Fiber, 2g

* Numbers may vary according to variety of peppers used

MOLE ROJO (SOUTHERN MEXICO)



Figure 7: Mole rojo (red mole sauce)

Mole rojo (red mole sauce) is commonly consumed in the southern region of Mexico and especially in areas such as Tabasco. This mole is unique from other moles. It contains plantains and cookies. Mole rojo obtains its red color from the wide variety of red chile peppers.

Yield ~4 cups; Serves: 5-7 people;

Time to make ~90 minutes;

Estimated cost to make ~\$ 4.00

Ingredients:

- ½ cup of sesame seeds
- 1 poblano chile (dark green with shiny skin, curvy – fruity, mild to very hot)
- 2 dried mulato chiles (dark black wrinkled skin – sweeter, chocolatey flavor)
- 2 dried pasilla chiles (dark brown or black, with wrinkled skin – earthy and mildly spicy taste)
- 3 guajillos chiles (dark red wrinkled skin-mild or hot flavor)
- 2 tablespoons of olive oil
- 1 whole medium onion, sliced
- 1 plantain, diced
- 1 pinch of salt and pepper
- 1 tablespoon of red pepper, flakes or crushed
- 2 garlic cloves
- 2 chipotle chile peppers in adobo sauce (See Figure 1)
- 10 white cookies (Marías Brand of cookies or any sweet, biscuit type cookies)

- 1 cup of chile broth (This comes from the water in which the chile peppers are boiled.)

Directions:

1. In a medium size sauté pan, roast sesame seeds and 1 chile poblano on medium heat. Cool then peel the skin off of the chile pepper and remove seeds. Set peppers and seeds aside.
2. Meanwhile, in a cooking pot with 2 cups of water, boil the mulato chiles, pasilla chiles, and guajillo chile for about 10 minutes on medium heat. Save 1 cup of this boiling water for step #5.
3. In the same sauté pan (from step #1), on medium heat, add 2 tablespoons of olive oil. Sauté the chiles (from step #2: pasillia chile, guajillo chiles, mulato chiles), and 1 whole sliced onion.
4. Add the diced plantain, 1 pinch of salt and pepper, 1 tablespoon of chile seeds (from Step #1), 2 garlic cloves (whole or cut into 2-3 pieces), 2 chipotle peppers in adobo sauce, poblano chile (from step #1), and whole cookies into the same pan.
5. Once everything is cooked, transfer the ingredients into a blender and add 1 cup of chile broth (from step #2).
6. The sauce is then ready to be served with any meat of your choice, commonly lean pork, chicken, or turkey.

Mole Sauce per Serving* (~ 2/3 cup/serving) Calories, 162 kcal; Carbohydrates, 17g; Protein, 3g; Fat, 10g; Cholesterol, 0mg; Fiber, 4g

* Numbers may vary according to variety of peppers used

How to Make Healthy Meals with Mole Sauce

Healthy eating habits can be a challenge to incorporate into everyday life; however starting to cook more meals every week at home is one way to improve diet quality. Finding inspiration from traditional Mexican mole may help refresh daily meals while satisfying taste buds. Here are some tips on saving money and still having healthy and delicious meals to eat:

- Using chicken or chile broth makes recipes healthier with less fat than using vegetable oil and lard as in traditional recipes.
- Substituting olive oil for butter or lard provides healthier fats.
- Mole sauce may be served over foods other than meats, including vegetables, rice, or tofu. (Figure 8)
- Mole sauce may be frozen for future meals.
- Instead of frying the meat (lean pork, chicken, or turkey) in mole is commonly served, one could grill, bake or steam the meat.
- In addition to making a healthy version of mole sauce, one could serve the sauce on a bed of brown rice or with a whole grain tortilla, instead of white rice and a flour tortilla.



Figure 8: Mole sauce serving with vegetables and rice

Make or Buy Mole Sauce?

For many, cooking mole sauce from scratch may not be convenient and economical due to the many ingredients used. As shown in the table below, the prices of mole sauces in stores are reasonable. (Table 1: Prices of Mole Sauces in Stores) One must weigh the convenience of store-bought sauce over higher fat content versus better quality of homemade mole; and one may find that homemade mole has more nutritional value, less fat and fewer additives, such as guanylate, monosodium glutamate, and artificial colors, than the store-bought versions.

Homemade mole sauce makes the house smell delicious as it is cooking, and can bring both family and friends together in the making and eating of it. Some contemporary households in Mexico have not ever made mole from scratch, which is such a change from the view of their ancestors who believed making mole at home was part of being Mexican. As part of ancestral tradition, mole sauce is to be prepared at home as a family and as a bonding tradition. Having mole sauce at your home will bring in the taste and rich tradition of Mexico!

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Table 1: Prices of Mole Sauces in Stores

Prices of Different Types of Mole Sauces in Stores			
Store	Type of Mole Sauces	Serving Size (ounce)	Price* (tax not included)
Local grocery stores	Red Mole	8	\$2.49 - \$2.89
	Mole Verde	8	~\$2.59
	Mole Poblano	8	~\$2.29
Mega stores (such as Walmart)	Mole Poblano	16	~\$4.19
	Mole Verde	8	~\$2.59

* Prices are average of several stores selling Mole Sauces near the University of Arizona, Tucson, Arizona

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Abstract:

This article introduces the popular mole (pronounced: MOH-lay) sauces that are typically served in three regions (the North, Central, and South) of Mexico. It also discusses how this popular Mexican food can promote healthy meal cooking, which can reflect traditional foods of the land.



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Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Jeffrey C. Silvertooth, Associate Dean & Director, Extension & Economic Development, College of Agriculture Life Sciences, The University of Arizona.

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