

**Written Lab Report #3 – Pollo con Mole**

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## I. About Your Recipe

The recipe I chose to make this week is called pollo con mole. Pollo con mole is a traditional dish in Mexican cuisine. It is believed that mole was first written about in the 16<sup>th</sup> century by a friar known as Bernardino de Sahagún.<sup>1</sup> Friar Bernardino de Sahagún claims that he was served crawfish with a “stew” called chalmul*mulli*.<sup>1</sup> The last five letters of the word chalmul*mulli* represents the *first* mention of mole in history (also spelled as mölli in the uto-Aztecan language Nahuatl) as mölli means sauce or mixture.<sup>1</sup> It is believed that the Aztecs cooked and mixed pre-Hispanic ingredients like pepitas (pumpkin seeds), xocolatl (chocolate), a variety of chilis, and tomatoes.<sup>1</sup> These ingredients were then mashed in molcajetes (mortar and pestle) to create a creamy texture.<sup>1</sup>

There is much debate as to who originally created mole, and no one knows for sure. However, true to Mexican folklore, there are several stories as to where this delicious delicacy sauce was created. One story claims that it was created by the Aztecs during the Los Aztecs’ ritual to honor The Aztec God of Fire, Xiuhtecuhtli.<sup>1</sup> Another story claims that it was created in 1885 at the Santa Rosa convent by nun sor Andrea de la Asunción as a special and welcoming dish for Bishop Puebla Manuel Fernández de Santa Cruz.<sup>1</sup> Legend has it that sor Andrea de la Asunción used *more* than 100 ingredients in her mole recipe!<sup>1</sup> These are just two of many folklore stories passed down from generation to generation. Though these two stories cannot be substantiated, one thing remains clear – mole ingredients vary greatly and reflect an evolving recipe. For example, xocolatl (chocolate), tomato and different chili peppers were ingredients native to the Indigenous Aztecs and are staple ingredients in mole. However, when the Spanish arrived in Mexico they brought cinnamon, anise, black pepper, ginger and garlic, which definitely made its way into mole recipes and show how this recipe may have adapted during and

after the Spanish conquest.<sup>1,2</sup> The Spanish also brought chicken to Mexico as chickens were not native to Mexico and not used in Indigenous cooking.<sup>1,3</sup> Prior to the introduction of the chicken, if fowl was used in recipes, it was usually turkey. However, chicken was brought to Mexico by the Spanish in the early 1500s, which is another example of recipe adaptation.<sup>1,3</sup>

There are several different types of mole, and they vary greatly depending on the combination of ingredients – spices, nuts, chiles, meat, fruits and vegetables used.<sup>1</sup> The different types of mole include mole Amarillo, mole chichilo, mole coloradito, mole manchamantel, mole negro, mole poblano, mole rojo, and mole verde.<sup>1</sup> Mole is a mix of Indigenous and Spanish ingredients and is a symbol of *mestizaje* (mixing of ethnic and cultural groups in Mexican history).<sup>4,5</sup>

The mole recipe I chose to make is a mole negro from Oaxaca. This recipe was passed down from my grandmother once ready-made store-bought mole sauce was introduced. Prior to the introduction of ready-made mole sauce, my grandmothers, their mothers (my great-grand mothers), and my great-great grandmothers (and all other Matriarch women throughout our family lineage) would spend several hours in the kitchen making mole. My mother has now passed down this (modernized) family recipe to me. This recipe is a modern adaptation of the traditional mole negro Oaxaca recipe as the recipe I made uses store-bought mole, vice me having to make the mole sauce from scratch.

The recipe ingredients for this recipe are:

- One medium chicken, boiled with skin and bones removed
- 3.5 cups chicken broth (from boiled chicken)
- 1 Tbsp Salt
- 1 Tbsp Pepper

- 2 Tbsp Garlic Powder
- 2 Tbsp Onion Powder
- 2 Tbsp Oregano (dried)
- 1 jar (8.25 oz) *Doña María Mole Mexican Sauce*

Directions:

1. Remove giblets and skin from chicken. Place chicken in a large pot and boil.
2. Fill up large stockpot with water and add salt, pepper, onion powder, garlic powder and dried oregano to water.
3. Cut chicken up and place in a large pot full of water. Boil until done cooking (~60 minutes).
4. Once done boiling, remove chicken meat from the pot and save broth mixture, this will be used later.
5. Remove chicken from bones and shred chicken meat. Set aside for later.
6. Pour 3.5 cups of chicken broth (leftover from the boiled turkey) and 1 jar (8.25 oz) of *Doña María Mole Mexican Sauce* into a large saucepan.
7. With a spoon, break apart the mole mixture from large pieces into several smaller pieces.
8. Turn on heat to low-medium and start cooking the mixture of mole and chicken broth.
9. Stir frequently to continue to break up mole chunks (~15 minutes), until mole paste is smooth, with no chunks.
10. Once mole paste is smooth simmer for 5 additional minutes.
11. Add in shredded chicken, mix, and serve.

Mole is a treasured Mexican delicacy that, traditionally, was only served on special occasions such as weddings, Día de Muertos, religious celebrations (baptism, first holy communion, confirmation), quinceañeras, wedding anniversaries, birth of a baby, and even when a town would get a new mayor as it took several hours (even days) to prepare mole from scratch.<sup>6</sup> However, due to industrialization and the availability of store-bought mole, mole is

eaten during special occasions but can also be served as a regular dish for dinner (my mom would make mole about 1-2 times a month for dinner).<sup>4</sup>

## **II. Health Context**

The pollo con mole recipe passed down to me by my mother contains four of the *Top 9 Allergens*. This *Mole Negro* Oaxacan recipe contains wheat, soy, peanuts and sesame. These allergens come exclusively from the *Doña María Mole Mexican Sauce*. However, traditional mole recipe(s) made by hand usually contain a wide mixture of peanuts, almonds, and sesame seeds but do not contain wheat.

There are three popular mole sauces that are free of the *Top 9 Allergens*. Traditional made-from-scratch made *Armarillo de Pollo* (chicken in Yellow mole) does not contain any of the *Top 9 Allergens*.<sup>6</sup> Other mole sauces that typically do not contain the *Top 9 Allergens* include *Mole Verde* (chicken in Green mole) and *Mole Chichilo* (as long as it is not garnished with sesame seeds).<sup>1,6</sup> However, due to the wide variability of ingredients in homemade and made-from-scratch mole recipes, an individual with food allergies, especially an allergy to tree nuts (most notably almonds), peanuts, and sesame seeds, must always ask if allergens are present before consuming the dish. The major allergens identified in store-bought mole include soybean, wheat, sesame seeds, peanuts, and almonds but typically wheat and soy are not included in traditional made-from-scratch recipes.

## **Nutrient Analysis**

Nutrient analysis was conducted via Cronometer.<sup>7</sup> The nutrient analysis is attached as *Appendix I* at the end of this written report. This modernized pollo con mole recipe makes 11 servings (Serving Size = 149 g). One serving provides 247.2 kcal, 17.2 g carbohydrate, 17.8 g protein, and 11.7 g of fat.<sup>8</sup> Pollo con mole contains multiple B vitamins, including thiamin,

riboflavin, niacin, pantothenic acid, vitamin B-6, vitamin B-12, choline, and folate.<sup>7</sup> Additional vitamins include vitamin A, vitamin C, vitamin D, vitamin E and vitamin K.<sup>7</sup> Additionally, this pollo con mole recipe contains multiple minerals, including calcium, copper, iron, magnesium, phosphorus, potassium, zinc, copper, selenium, sodium and manganese.<sup>7</sup> It is important to note that one serving contains 1,053.72 mg of sodium, making this a high-sodium dish.

The nutritional strengths of this recipe include being a deliciously savory dish that contains 17.8 g of protein from the chicken meat. Additionally, one serving of this recipe contains 17.2 g of carbohydrate, which is barely over 15 g (one carbohydrate exchange) – which is important for individuals with type 2 diabetes. Weaknesses include that one serving of this recipe contains 1,053.72 mg of sodium – which is very high. Additionally, one serving of this soup contains 11.7 g of fat, with 2.4 g coming from saturated fat and 0.1 g coming from trans-fat.

However, pollo con mole can be enjoyed and incorporated into a balanced dietary pattern, though individuals with hypertension or cardiovascular disease must use extra caution when consuming this dish to ensure that the other meals consumed in the same day contain little sodium as individuals with HTN and CVD should limit overall sodium intake to 1,500 mg daily.

### **III. Modification**

If an individual is allergic to wheat, soy, peanuts and sesame they must avoid the *Doña María Mole Mexican Sauce* used in this recipe. There are other store-bought mole sauces available, but they typically contain at least one of the top 9 allergens, to include tree nuts (most notably almond), sesame, wheat, soy, and/or peanuts. Therefore, if an individual has any sort of food allergy, they must carefully read the back label of any store-bought mole sauce they are considering. Additionally, because made-from-scratch mole recipes vary widely in ingredients, an individual with food allergies should ask before eating any mole recipe (some mole recipes

contains as many as 100 ingredients, though ~26 ingredients seems to be the average).<sup>6</sup> If an individual with a food allergy wants to ensure the mole they are consuming is safe, they can make the recipe themselves (though to make it from scratch on a small scale usually takes a minimum of 2-4 hours) and they can omit any ingredient they are allergic to.

Additionally, there are several varieties of mole recipes, and three consistently do not contain any of the top 9 allergens. These are *Armarillo de Pollo* (chicken in Yellow mole), *Mole Verde* (chicken in Green mole) and *Mole Chichilo*.<sup>1,6</sup> It's important to mention that *Mole Chichilo* is typically garnished with sesame seeds, but this can easily be omitted by an individual with a sesame seed allergy as it is only sprinkled on the top of the dish and isn't mixed within the mole sauce itself.<sup>1</sup>

This mole recipe can be made vegan or vegetarian by omitting meat and using vegetable stock, tofu, tempeh, or any meat alternative of choice provided the individual is not allergic to any ingredients in the meat alternatives.

One serving of this recipe is 17.8 g of protein, 11.7 g of fat, and 17.2 g of carbohydrate. The carbohydrate amount of 17.2 g in one serving is over one carbohydrate exchange (15 g) by 2.2 g, which makes this pollo con mole recipe appropriate for an individual with type 2 diabetes provided it is incorporated into a balanced dietary pattern.

If an individual suffers from cardiovascular disease or hypertension, I would recommend omitting the 1 tablespoon of added sodium and would suggest, if feasible and practical, that the mole be made by hand. Store-bought mole typically contains 320 mg per 1.5 tablespoons. One serving of this pollo con mole recipe is high in sodium, as it contains 1,053.7 mg of sodium.<sup>9</sup> Therefore, omitting the salt and making the mole by hand without adding any additional salt would decrease sodium levels. However, there is a low-sodium mole sauce called *Mayanshul*

*Mole Sauce* that is an acceptable low-sodium alternative and can be purchased online.<sup>8</sup>

Therefore, if an individual with CVD or HTN does not want to make mole sauce by hand, I would recommend they purchase this low-sodium alternative as it contains 50 mg of sodium per serving.<sup>8</sup>

If an individual has low fruit or vegetable intake, I would recommend they make a variety of different mole sauces, if possible, as each mole sauce includes different fruits and vegetables! For example, *mole rojo* includes plantain, apple, raisins, chopped tomatoes, and tomatillos.<sup>6</sup> *Amarillo de Pollo* includes garlic, onion, chayote, green beans, fingerling potatoes, limes, and tomatillos.<sup>6</sup> *Mole Negro* contains plantains, apples, pineapple, raisins, avocado, and tomato.<sup>6</sup> The reason why my pollo con mole recipe lacked fruits and vegetables is because this specific brand, *Doña María Mole Mexican Sauce*, does not contain added fruits or vegetables. However, there are some store-bought mole sauces that are made from fruits and vegetables. The *Mole Negro* from *Ya Oaxaca* contains plantains, tomatoes, tomatillos, raisins, and garlic – so this mole sauce would be a great option over the *Doña María Mole Mexican Sauce*.<sup>9</sup> It's important to note that my mother said the *Doña María Mole Mexican Sauce* is the *best tasting* mole sauce available and reminds her and my father most of the made-from-scratch mole sauce they consumed as children.

For an individual who has very little time to cook or shop, I would recommend purchasing store-bought mole sauce and ready-to-eat shredded chicken. The mole sauce can be heated up over the stove, stirred, and the chicken later added to the creamy mole sauce once its done cooking. It's important to note that it will still take ~20 minutes to break apart and heat the mole sauce, and an additional 5-10 minutes to cook once the shredded chicken is added to the mole sauce. However, one can enjoy pollo con mole within 30-minutes.



## References

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Appendix I

Pollo con Mole Recipe Analyzed via Cronometer.<sup>7</sup>

☆ Pollo Con Mole

Recipe #51215638, Data Source: Custom

ADD TO DIARY

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Info

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Recipe Name

Pollo Con Mole

Ingredients

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ADD INGREDIENTS

Description	Database	Amount	Unit	Energy (kcal)	Weight
Chicken, Whole, Skin Removed Before Cooking	NCCDB	1	each - no giblets or neck	931.0	490.0 g
Chicken Broth, Bouillon or Consomme, Homemade	NCCDB	3.50	cup	293.7	840.0 g
Donna Maria, Mole Mexican Sauce	CRDB	9	1.50 tbsp	1350.0	243.0 g
Salt	NCCDB	1	tbsp	0.0	18.2 g
Black Pepper, Ground	NCCDB	1	tbsp	17.3	6.9 g
Spices, Garlic Powder	USDA	2	tbsp	64.2	19.4 g
Spices, onion powder	USDA	2	tbsp	471	13.8 g
Oregano, Dried	NCCDB	2	tbsp	15.9	6.0 g

Serving: 11 servings per recipe

Nutrition Overview

Percent daily values (DV%) are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your targets.

Nutrients in:

1

Serving — 149g

Macronutrients

247 kcal

Protein: 18g (30%)

Carbs: 14g (27%)

Fat: 12g (43%)

Alcohol: 0g (0%)

General	Amount	% DV
Energy	247.20 kcal	
	1034.98 kJ	
Alcohol	0.00 g	
Ash	2.82 g	
Beta-Hydroxybutyrate	- g	
Caffeine	0.00 mg	
Oxalate	717 mg	
Water	99.68 g	

Carbohydrates	Amount	% DV
Total Carbs	17.21 g	6.3%
Fiber	2.91 g	10.4%
Starch	2.18 g	
Sugars	5.58 g	
Allulose	- g	
Fructose	0.43 g	
Galactose	0.14 g	
Glucose	0.58 g	
Lactose	0.00 g	
Maltose	0.00 g	
Sucrose	0.34 g	
Added Sugars	3.27 g	6.5%
Sugar Alcohol	0.13 g	
Net Carbs	14.18 g	

Lipids	Amount	% DV
Fat	11.72 g	15.0%
Monounsaturated	1.58 g	
Polyunsaturated	1.00 g	
Omega-3	0.07 g	
Omega-6	0.85 g	
Saturated	2.43 g	12.2%
Trans-Fats	0.13 g	
Cholesterol	44.75 mg	14.9%
Phytosterol	1.23 mg	

Protein	Amount	% DV
Protein	17.83 g	
Alanine	0.82 g	
Arginine	1.00 g	
Aspartic acid	1.38 g	
Cystine	0.20 g	
Glutamic acid	2.32 g	
Glycine	0.77 g	
Histidine	0.46 g	
Hydroxyproline	- g	
Isoleucine	0.79 g	
Leucine	1.12 g	
Lysine	1.26 g	
Methionine	0.41 g	
Phenylalanine	0.60 g	
Proline	0.67 g	
Serine	0.52 g	
Threonine	0.63 g	
Tryptophan	0.18 g	
Tyrosine	0.51 g	
Valine	0.75 g	

Vitamins	Amount	% DV
B1 (Thiamine)	0.06 mg	5.2%
B2 (Riboflavin)	0.11 mg	8.6%
B3 (Niacin)	4.71 mg	29.4%
B5 (Pantothenic Acid)	0.66 mg	13.2%
B6 (Pyridoxine)	0.32 mg	18.7%
B12 (Cobalamin)	0.16 µg	6.8%
Biotin	- µg	-%
Choline	43.55 mg	7.9%
Folate	14.12 µg	3.5%
Vitamin A	14.48 µg	1.6%
Alpha-carotene	0.18 µg	
Beta-carotene	55.45 µg	
Beta-cryptoxanthin	0.20 µg	
Lutein+Zeaxanthin	64.26 µg	
Lycopene	0.13 µg	
Retinol	9.84 µg	
Vitamin C	2.33 mg	2.6%
Vitamin D	2.62 IU	0.3%
Vitamin E	0.32 mg	2.1%
Beta Tocopherol	0.00 mg	
Delta Tocopherol	< 0.01 mg	
Gamma Tocopherol	0.26 mg	
Vitamin K	11.56 µg	9.6%

  

Minerals	Amount	% DV
Calcium	62.73 mg	4.8%
Chromium	- µg	-%
Copper	0.09 mg	9.5%
Fluoride	- µg	
Iodine	- µg	-%
Iron	2.28 mg	12.7%
Magnesium	22.22 mg	5.3%
Manganese	0.20 mg	8.6%
Molybdenum	- µg	-%
Phosphorus	121.43 mg	9.7%
Potassium	320.89 mg	6.8%
Selenium	12.09 µg	22.0%
Sodium	1053.72 mg	45.8%
Zinc	1.24 mg	11.3%

## Pollo Con Mole

# Nutrition Facts

Serving Size 1 Serving

Amount Per Serving

**Calories** 247.2

		% Daily Value*
<b>Total Fat</b>	11.7 g	15 %
Saturated Fat	2.4 g	12 %
Trans Fat	0.1 g	
<b>Cholesterol</b>	44.7 mg	15 %
<b>Sodium</b>	1053.7 mg	46 %
<b>Total Carbohydrate</b>	17.2 g	6 %
Dietary Fiber	2.9 g	10 %
Total Sugars	5.6 g	
Added Sugars	3.3 g	7 %
<b>Protein</b>	17.8 g	
Vitamin D	0.1 mcg	0 %
Calcium	62.7 mg	5 %
Iron	2.3 mg	13 %
Potassium	320.9 mg	7 %

\* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full Info at [cronometer.com](https://cronometer.com)

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