



Chef Cesar

Sous Vide

Recipes

**What is
Sous Vide**

**Cooking
Steps**

Advantages

Questions

Cesar Rivera-Cruzado M.Ed.
UCF Rosen College of Hospitality Management

About me



Born in Puerto Rico



M.Ed. Curriculum and Teaching in History
Ed.D. Leadership and Instruction in
Distance Education

Research interests in digital and mobile
learning



"Tu Mañana" Univision PR
Chef Instructor 2 Culinary School
UCF Rosen College 2006



Cesar Rivera Cruzado M.Ed.

Instructor | Director of
Food & Beverage Operations



Chef Cesar

Sous Vide

Recipes

**What is
Sous Vide**

**Cooking
Steps**

Advantages

Questions

Cesar Rivera-Cruzado M.Ed.
UCF Rosen College of Hospitality Management

Sous vide Fundamentals



If you eat out, chances are you have eaten food that has been prepared with sous-vide techniques. Sous-vide is utilized in **catering**, in **fine dining restaurants**, such as Per Se and Bouley, QSR (**quick service restaurants**) and **hotels** such as Starwood and Hilton Hotels & Resorts.

It is also used on industry-leading domestic and international **airlines** and **cruise lines**, by the United States **Military** and Military Academies (West Point, Naval Academy, Air Force Academy), and in retail settings.

Objectives

Lesson Objectives



1. Examine the origins and history of sous-vide

2. Describe its advantages vs. traditional cooking methods.

3. Identify the steps to safely cook in sous-vide method



Chef Cesar

Sous Vide

Recipes

**What is
Sous Vide**

**Cooking
Steps**

Advantages

Questions

Cesar Rivera-Cruzado M.Ed.
UCF Rosen College of Hospitality Management

What is Sous Vide



History

Sous-vide is physically practical as the technique **utilizes water as a medium** of applying a **precise temperature** to the product; **water is the best conductor of heat**. In order to do so, one needs to protect the product so that it does not lose its delicate qualities and that is why a **food-grade plastic** pouch is utilized.

A **vacuum is applied** to the product in the bag so that **air does not get trapped** between the bag and the product, which **could prevent heat from reaching the product** during the cooking process.

Dr. Bruno Goussault

Dr. Bruno Goussault is often cited as the founder of sous-vide cooking. **Developed in 1971**, his focus has been on low temperature cooking, food safety, and industrial cooking applications.

This work in sous-vide has led to **changes in the way** top chefs cook for their guests in restaurants, and the way food is prepared and served on **planes, trains, ships and in hotels**, resorts, and convention centers around the world.

He founded **CREA** (Centre de Recherche et d'Etudes pour l'Alimentation) in Paris in 1991 to train chefs around the world in precise temperature cooking, and has since trained most of the Michelin three star chefs around the world on the technique he brought to the forefront of the food industry..





Backgrounder on Sous-Vide

At its very core, cooking is all about **preparing** and combining foods, right? And heating them at **various temperatures** for **various lengths of time**, in various cooking vessels. These aren't new concepts for us.

We know that for many foods, especially **tougher cuts of meat**, cooking at **low temperatures** for **extended periods** of time can improve their organoleptic qualities — taste, fragrance, texture — and that cooking foods in closed vessels can intensify their flavors.

Many cultures throughout history have used sealed vessels to slow-cook food. In ancient **China**, people simmered tough meats in **clay pots**. **Hawaiians** roast whole pigs by wrapping them in leaves and burying them underground in a fire pit.



Pre-sous vide

Tightly wrapping food and cooking it at low temperatures proved to be an effective cooking method, and this technique would eventually grow into the principles of modern sous-vide.

North America (Smoked BBQ/Pulled Pork)

South America (Tamales)

Africa (Tagine from Morocco)

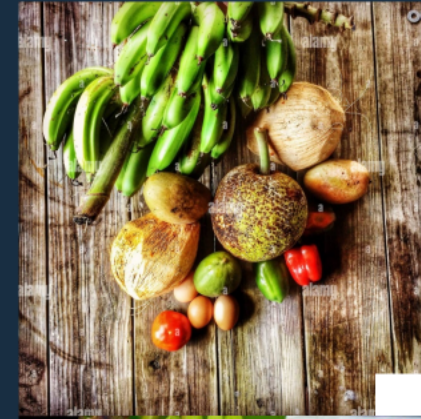
Middle East (Dolma)

Europe (Baeckeoffe)

Stew from the French region of Alsace. Slow-cooked in a ceramic casserole dish.

Asia (Lamprais from Sri Lanka)

Lamprais is a rice boiled in stock accompanied by frikkadels (meatballs), a mixed meat curry,



Time Line

1960s - Companies in France and America **begin vacuum-packing cured and cooked foods so that they can be stored for long periods** of time with no oxidation. This work was based on surface fermentation.

1968 - This year marks the birth of the **first plant to produce sous-vide-cooked potatoes**. Potatoes sterilized in plastic sous-vide bags are eventually included in a tray with inert gas to avoid the oxidation of cooked potatoes.

Early 1970s Dr. Bruno Goussault conducts scientific studies on the mechanics and **benefits of cooking food** while it's vacuum sealed,

In 1974, he presents his findings on cooking roast beef (medium rare) with sous-vide techniques: improved flavor and texture as well as an extended **shelf life to 60 days**.



Time Line

1974 - Georges Pralus sponsored by Cryovac and Multivac begin experimenting with cooking foie gras sous-vide. They find that encasing the foie gras in plastic before cooking allowed it to retain its volume, with only a 5% loss in product weight.

Early 1980s - Goussault begins training many of **Michelin's three-star chefs** in Europe on the sous-vide technique.

1984 - Dr. Bruno Goussault, Joel Robuchon and food critic Henri Gault open a restaurant on the French luxury train "**Nouvelle Premiere**", serving a menu **based** on foods that could be **prepared sous-vide** and **simply reheated** on the train. It is the first restaurant using sous-vide product in an assembly process.



Time Line

1991 -Dr. Bruno Goussault founds the Centre de Recherche et D'etudes pour L'alimentation, or Culinary Research and Education Academy (**CREA**), a training, research and consulting center for sous-vide in Paris.

2006–2010s - Widespread expansion of the use of sous-vide cooking in restaurants and homes occurs around the world. .

2008 - **Thomas Keller** author's "Under Pressure", the first American cookbook on sous-vide.

2010 - **CREA** launches a series of online courses aimed at professional chefs and food enthusiasts





Chef Cesar

Sous Vide

Recipes

**What is
Sous Vide**

**Cooking
Steps**

Advantages

Questions

Cesar Rivera-Cruzado M.Ed.
UCF Rosen College of Hospitality Management

Advantages

1. Enhance flavor
2. Retain color
3. Maintain and improve tenderness
4. Retain natural juices





Chef Cesar

Sous Vide

Recipes

**What is
Sous Vide**

**Cooking
Steps**

Advantages

Questions

Cesar Rivera-Cruzado M.Ed.
UCF Rosen College of Hospitality Management

Cooking steps

Prepping - Clean your protein

Searing- Searing or grilling a meat before cooking it sous-vide enhances its flavor and makes it look more like what the guest would expect

Cooling - Before being vacuum-packed, the food must be cooled to a core temperature below 6°C (42.8°F) to allow better pressure control

Seasoning - After searing the meat, weigh it. Add .1% (one-tenth of one percent) of that weight in salt and .01% (one-hundredth of one percent) in pepper (optional; not preferable in all cases), making sure to season both sides

Vacuum sealing - High-quality sous-vide bags should also be used.

Cooking - In order to maximize the precision, the vacuum sealed protein should be submerged in a water bath or saturated vapor.

Searing - searing proteins on a 200C surface with some fat.



Chef Cesar

Sous Vide

Recipes

**What is
Sous Vide**

**Cooking
Steps**

Advantages

Questions

Cesar Rivera-Cruzado M.Ed.
UCF Rosen College of Hospitality Management

Recipes



**Beef
tenderloin
Compound
butter**

**Glazed
Carrots
Recipe**

**Lentil
Ragu**

**Sous Vide
Creme
Brulee
(Vanilla)**

Espinacas a la Catalana

Beef tenderloin Compound butter	
Yield: 5	Method:
Ingredients	Quantity
Beef tenderloin medallion	5 ea.
Salt and pepper	tt
Herbed Compound Butter	
Unsalted butter, softened	½ cup
Shallots, minced	1 tbsp
Garlic clove, grated on a Microplane or minced	1 ea.
Fresh thyme or rosemary, chopped	1 tbsp
Parsley	1 tbsp
Lemon juice	1tsp
black pepper	¼ tsp
Salt, more to taste	¼ tsp

1. Set the Sous Vide circulator to 134 degrees Fahrenheit.
2. Season pad dry and season the stake.
3. Place the steak into the vacuum bag.
4. Place vacuum bag into chamber vacuum sealer and pull a full, 100% vacuum.
5. Place the bags in the water bath and sous vide for one hour.
6. Meanwhile, make the compound butter.
7. Remove the steak from the bag and placed it on a paper towel lined plate. Pat, it dry very carefully on both sides.
8. Place the steak in the grill and sear for 1 minute on each side to brown it.

COMPOUND BUTTER

1. In a bowl, mash together butter, shallots or garlic, herbs, lemon juice, pepper and salt.
2. Spoon the butter onto a piece of parchment paper or plastic wrap, form into a log and wrap well. Chill for at least 3 hours before using.

Glazed Carrots Recipe



Rosen College of

Hospitality Management

ADVANCING THE ART OF HOSPITALITY EDUCATION

Sous Vide Glazed Carrots Recipe

Yield: 5

Method:

Ingredients	Quantity
Whole baby carrots, peeled or well-scrubbed	1 lb
Unsalted butter	2 tablespoons
Sugar	1 tablespoon
Kosher salt	tt
black pepper, freshly ground	tt
Orange zest	1 thep

1. Use a sous vide immersion circulator to preheat a water bath to 183°F (84°C).

2. Place carrots, butter, sugar, and 1/2 teaspoon kosher salt in a vacuum bag and seal according to manufacturer's instructions.

3. Empty entire contents of bag into a 12-inch, heavy-bottomed skillet and cook over high heat, stirring constantly, until liquid has reduced to a shiny glaze, about 2 minutes.

4. If glaze breaks and turns greasy, add water a teaspoon at a time, shaking pan to re-form glaze.

5. Season to taste with salt and pepper, stir in parsley, and serve.

Lentil Ragu

Lentil Ragu	
Yield: 5	Method:
Ingredients	Quantity
Brown Lentils	8 oz
Onion, finely chopped	4 oz
Cloves garlic, sliced	2 ea
Carrot, finely diced	2 oz
Tomato, chopped	1
Fresh thyme	4 sprigs
Chicken stock	2 cups
Butter	1 oz

1. Preheat water bath to 91°C (198 °F)
2. Place all ingredients into a bag vacuum seal or clip the bag to the side of the bath and cook Sous Vide for 1 hour. Leaving the bag open will allow you to access the lentils for tasting as you discover your preference.
3. Empty ragu into a pan and stir in butter, season well with salt and pepper.

Sous Vide Creme Brulee (Vanilla)

Sous Vide Creme Brulee (Vanilla)	
Yield: 5	Method:
Ingredients	Quantity
Egg yolks room temperature	5 ea.
Heavy whipping cream	2 cups
Granulated sugar	½ cup
Pure vanilla extract	1 teaspoon

1. Whisk the egg yolks and sugar in a bowl until a paste forms.
2. Mix the vanilla into the cream and whisk the cream into the egg and sugar mixture.
3. Pour the mixture into four 4-ounce jars with lids. Tighten the lid "fingertip tight." The jars should be ¾ of the way full. Don't fill them any higher.
4. Place the jars in the water bath and heat to 179F degrees.
5. Cook for one hour. Remove from the water bath and let them cool enough to handle, then remove the lids.
6. Let them cool until they reach room temperature. Wipe any excess moisture off the lids and place them back on.
7. Refrigerate the crème brulee until fully cooled, about 3 hours or overnight.
8. Remove from fridge and take the lids off when ready to use.
9. Sprinkle sugar over the top of the creme brulee and swirl it around until the top is fully coated. Pour off any excess. Repeat for each one once you're ready to serve.
10. Using a kitchen torch, brulee the tops until the sugar has caramelized (it should be a light brown color and it will start to harden). Let it cool, then serve.



Chef Cesar

Sous Vide

Recipes

**What is
Sous Vide**

**Cooking
Steps**

Advantages

Questions

Cesar Rivera-Cruzado M.Ed.
UCF Rosen College of Hospitality Management

Thank You!

Happy to take questions.

Cesar.riveracruzado@ucf.edu

Class resources



Recipes

Podcast Episodes





Chef Cesar

Sous Vide

Recipes

**What is
Sous Vide**

**Cooking
Steps**

Advantages

Questions

Cesar Rivera-Cruzado M.Ed.
UCF Rosen College of Hospitality Management

Beef tenderloin Compound butter	
Yield: 5	Method:
Ingredients	Quantity
Beef tenderloin medallion	5 ea.
Salt and pepper	tt
Herbed Compound Butter	
Unsalted butter, softened	½ cup
Shallots, minced	1 tbsp
Garlic clove, grated on a Microplane or minced	1 ea.
Fresh thyme or rosemary, chopped	1 tbsp
Parsley	1 tbsp
Lemon juice	1tsp
black pepper	¼ tsp
Salt, more to taste	¼ tsp

1. Set the Sous Vide circulator to 134 degrees Fahrenheit.
2. Season pad dry and season the stake.
3. Place the steak into the vacuum bag.
4. Place vacuum bag into chamber vacuum sealer and pull a full, 100% vacuum.
5. Place the bags in the water bath and sous vide for one hour.
6. Meanwhile, make the compound butter.
7. Remove the steak from the bag and placed it on a paper towel lined plate. Pat, it dry very carefully on both sides.
8. Place the steak in the grill and sear for 1 minute on each side to brown it.

COMPOUND BUTTER

1. In a bowl, mash together butter, shallots or garlic, herbs, lemon juice, pepper and salt.
2. Spoon the butter onto a piece of parchment paper or plastic wrap, form into a log and wrap well. Chill for at least 3 hours before using.

Lentil Ragu

1. Preheat water bath to 91°C (198 °F)
2. Place all ingredients into a bag vacuum seal or clip the bag to the side of the bath and cook Sous Vide for 1 hour. Leaving the bag open will allow you to access the lentils for tasting as you discover your preference.
3. Empty ragu into a pan and stir in butter, season well with salt and pepper.

[illegible]

1. Use a sous vide immersion circulator to preheat a water bath to 183°F (84°C).
2. Place carrots, butter, sugar, and 1/2 teaspoon kosher salt in a vacuum bag and seal according to manufacturer's instructions.
3. Empty entire contents of bag into a 12-inch, heavy-bottomed skillet and cook over high heat, stirring constantly, until liquid has reduced to a shiny glaze, about 2 minutes.
4. If glaze breaks and turns greasy, add water a teaspoon at a time, shaking pan to re-form glaze.
5. Season to taste with salt and pepper, stir in parsley, and serve.

[illegible]

1. Whisk the egg yolks and sugar in a bowl until a paste forms.
2. Mix the vanilla into the cream and whisk the cream into the egg and sugar mixture.
3. Pour the mixture into four 4-ounce jars with lids. Tighten the lid "fingertip tight." The jars should be $\frac{3}{4}$ of the way full. Don't fill them any higher.
4. Place the jars in the water bath and heat to 179F degrees.
5. Cook for one hour. Remove from the water bath and let them cool enough to handle, then remove the lids.
6. Let them cool until they reach room temperature. Wipe any excess moisture off the lids and place them back on.
7. Refrigerate the crème brulee until fully cooled, about 3 hours or overnight.
8. Remove from fridge and take the lids off when ready to use.
9. Sprinkle sugar over the top of the creme brulee and swirl it around until the top is fully coated. Pour off any excess. Repeat for each one once you're ready to serve.
10. Using a kitchen torch, brulee the tops until the sugar has caramelized (it should be a light brown color and it will start to harden). Let it cool, then serve.