

THOMAS KELLER

TEACHES COOKING TECHNIQUES III:
SEAFOOD, SOUS VIDE, AND DESSERTS

MASTERCLASS

A LETTER FROM CHEF THOMAS KELLER

Welcome to my MasterClass.
I'm honored to be here with you.
It's an opportunity to share some of the knowledge
and experience that so many others have shared
with me throughout the years.

Like anyone who ever learned to cook, I started from scratch. My first job was as a dishwasher in a Florida restaurant that my mother managed. It wasn't glamorous work, but it taught me the importance of discipline and repetition, and of treating even the smallest details with the greatest care. Those lessons became the grounding principles of my work. They still are today.

As my career progressed, and I improved as a cook, I was also guided by invaluable mentors, their numbers too many and their influence too profound for me to possibly do full justice to them here. One small way for me to give back is to try to serve as a mentor, too.

Cooking, after all, is about sharing. Anytime we prepare food, we aren't just making a meal. We're nurturing one another and making memories that are best enjoyed with others.

In that way, cooking is deeply personal, too. We put something of ourselves into everything we make.

As we move through this MasterClass, keep that in mind. The concepts we discuss are meant to provide you with a foundation. But I encourage you to make them your own. Taste as you go. Adjust to your preferences. Practice the techniques and get comfortable with repetition.

Embrace the learning process. Enjoy the experience.
Above all, have some fun!



ABOUT CHEF THOMAS KELLER

Thomas Keller's name is synonymous with quality and high standards. The chef and proprietor of The French Laundry, in Yountville in the Napa Valley, and Per Se, in New York, among other restaurants, he is the first and only American-born chef to hold multiple three-star ratings from the prestigious Michelin Guide, as well as the first American male chef to be designated a chevalier of The French Legion of Honor, the highest decoration in France.

Chef Keller has earned countless accolades, including The Culinary Institute of America's "Chef of the Year" Award and the James Beard Foundation's "Outstanding Chef" and "Outstanding Restaurateur" Awards. In 2001, *Time* Magazine named him America's Best Chef. In 2017, Chef Keller led a team from the United States to its first-ever gold medal in the Bocuse d'Or, a prestigious biannual competition that is regarded as the Olympics of the culinary world. For embodying the state's spirit of innovation, he was inducted into the 2018 California Hall of Fame, as selected by Governor Jerry Brown and First Lady Anne Gust Brown. In June 2019, Chef Keller became the first USA inductee into the oldest savory chef association in the world, The Master Chefs of France.

Keller began his culinary career in his teens as a dishwasher in the Palm Beach restaurant managed by his mother. In 1983, he moved to France, where he apprenticed in several Michelin-starred restaurants. He opened his first restaurant, Rakel, in New York City in 1986, before relocating to California to serve as Executive Chef at the Checkers Hotel in Los Angeles. In 1994, Chef Keller took ownership of The French Laundry, and soon brought it to national and world-wide acclaim. With Snøhetta, a completed new kitchen and courtyard renovation was recently unveiled at The French Laundry. The redesign is the first major

overhaul to the historic site in over two decades, doubling the size of the existing landscape, while providing a world-class working environment for Keller and his team to innovate their craft and service.

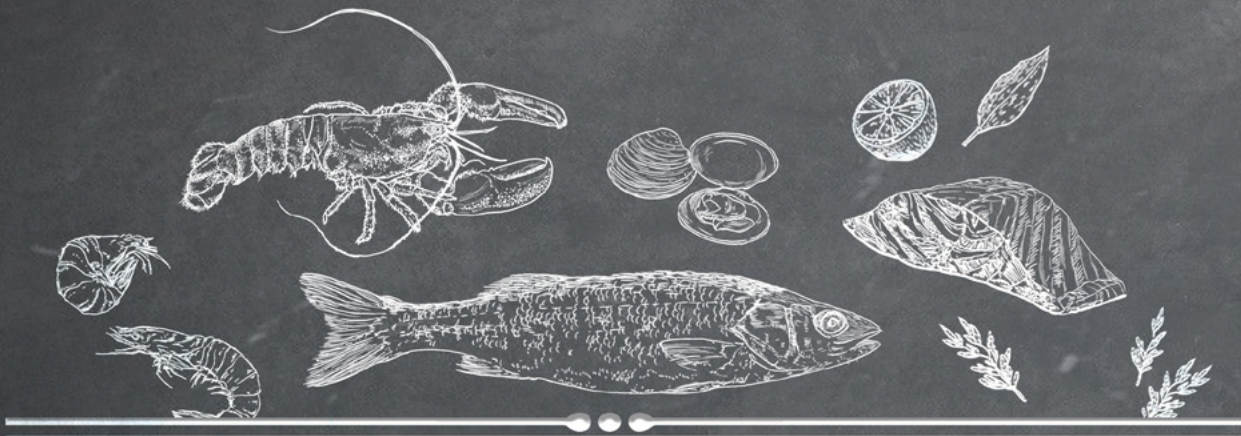
Chef Keller's French bistro, Bouchon, debuted in 1998, followed by Bouchon Bakery five years later. Both are within walking distance of The French Laundry. Since then, Keller has opened outposts of Bouchon and Bouchon Bakery in New York City and Las Vegas. Another of his restaurants is familystyle Ad Hoc + Addendum, also in Yountville, as well as La Calenda, a Mexican restaurant with Chef Kaelin Ulrich Trilling leading the culinary program. In 2017, Chef Keller opened Bouchon Bakeries in the Middle East with partner M.H. Alshaya Co. and continues to introduce a new dining experience to guests in that region. Celebrating Continental cuisine, The Surf Club Restaurant opened the summer of 2018 located in Surfside, Florida and now TAK Room in New York City, which debuted in March 2019. He is the author of five cookbooks, with more than 1.3 million copies in circulation.

Known for his leadership, Chef Keller has assembled a team that shares his philosophy in his restaurants, enabling him to concentrate on interests outside the kitchen, including his and Laura Cunningham's Napa Valley wine label Modicum, as well as a magazine and a retail outpost in Yountville, both titled Finesse. He has embarked on several innovative partnerships. In his newest collaboration, Chef Keller partnered with Armando Manni, an acclaimed olive oil producer, to develop a line of chocolates, K+M Extravirgin Chocolate, that is revolutionizing bean-to-bar chocolate production with its proprietary method of boosting antioxidant levels.

ABOUT CHEF THOMAS KELLER

Chef Keller also co-founded Cup4Cup, a line of gluten-free flour blends and mixes that substitutes for all-purpose flour in home recipes. Chef Keller has formed a culinary partnership with Seabourn to help elevate the guest experience through the opening of The Grill restaurant and advising on menu items throughout the fleet. He is a Brand Ambassador for Hestan Commercial and Hestan Indoor. His newest partnership is with Cangshan knives.

Together with restaurant designer Adam D. Tihany, he created K+T, a collection of silver hardware and cocktail ware for Christofle Silversmiths. Chef Keller's collaboration with Raynaud and design firm Level has led to a sophisticated collection of white porcelain dinnerware called "Hommage." Chef Keller also consulted on the films *Spanglish* and *Ratatouille*, the latter winning for best animated feature film at both the Academy Awards and Golden Globes in 2008.



SEAFOOD

MASTERCLASS

INTRODUCTION

*“There’s so much more variety of fish
than there is meat.”*

Many home cooks find seafood intimidating. Chef Thomas Keller says it doesn’t need to be. In this class, he dives into the bounty of our rivers, oceans, and seas to help get you comfortable with round fish, flat fish, lobsters, shrimp, mussels, clams, and more. He’ll teach you how to identify fresh seafood and demonstrate the techniques you’ll need to prepare many of his favorite fish and shellfish dishes. Because great cooking calls upon all the senses, Chef Keller will also show you how to work by sight, sound, smell, and feel to get the best possible results, whether you’re crisping the skin on sautéed King salmon or checking for doneness on butter-poached lobster. Along the way, you’re bound to make mistakes—everybody does, Chef Keller included. Don’t let them stop you; treat them as opportunities to learn.

One of Chef Keller’s first restaurant jobs was as a *poissonier*, or fish cook, a position that deepened his appreciation for the delicious and diverse bounty of our oceans, rivers, and seas. When selecting seafood, always check for freshness:

FISH

Look for clear and bulging eyes and flesh that rebounds quickly to the touch. The gills should be uniformly pink and slightly slimy.

Store fish on top of ice in a perforated container set over a deeper container to allow the melting ice to drain and avoid immersing the fish in water. Chef Keller recommends storing round fish in the same position in which it swims; when you store fish on its

side and cover it with ice, the weight and pressure of the ice can damage the flesh.

LOBSTERS

Always purchase live lobsters. Select lobsters that weigh 1½ pounds or less, such as 1¼-pound lobsters, also known as “chicks.” Look for lobsters that are strong and lively. One way to tell is to hold the lobster’s carapace and make sure the lobster holds its claws above its head (i.e., claws should not be drooping).

Chef Keller demonstrated the difference between male and female lobsters. For cooking purposes, the differences are negligible, with the main advantage being that the female lobsters have roe, which can be used for making coral oil or as a garnish for dishes. For the Lobster Mac and Cheese that Chef Keller demonstrates in this MasterClass, both male and female lobsters work equally well.

CLAMS & MUSSELS

It is best to purchase clams and mussels close to their source. Their shells should be closed. Store them on top of ice in a perforated container set over a deeper container to allow the melting ice to drain into and to avoid immersing the shellfish in water.

WILD-CAUGHT VS. FARM-RAISED

There are advantages and disadvantages to both wild-caught and farm-raised fish. When sourced responsibly, wild-caught fish is the paradigm, and they are usually harvested in less polluted waters.

INTRODUCTION

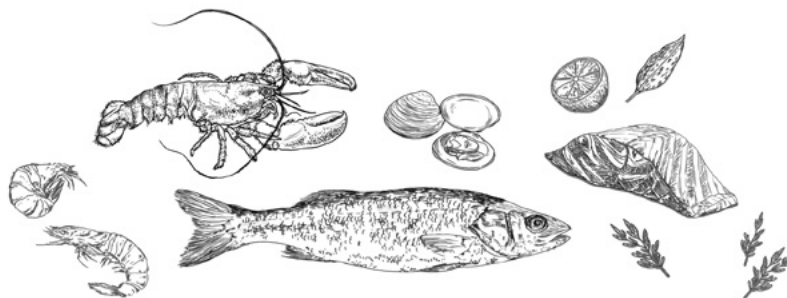
Unfortunately, the demand for wild-caught fish has caused overharvesting and sometimes unsustainable practices. Farm-raised fish can yield excellent quality when farmed correctly and responsibly, resulting in product consistency, size, and flavor. Additionally, farm-raised fish can help in sustainability. Some of the potential disadvantages of farm-raised fish include overcrowding, polluted waters, and lower-quality feed given to the fish.

FROZEN SEAFOOD

Try to avoid purchasing frozen fin fish, as their quality usually suffers from freezing; however, frozen crustaceans (e.g., shrimp) may be acceptable.

LEARN MORE

Our oceans may seem infinite, but their resources are not. Chef Keller urges you to educate yourself on issues surrounding sustainability and seafood. Before buying fish or shellfish, find out where and how it's caught. If it's farm-raised, learn about the farm's management practices. The Monterey Bay Aquarium Seafood Watch program is an invaluable resource to help you make decisions that support a healthy ocean. Check out its recommendations and advisories at seafoodwatch.org.



SAUTÉ: SALMON WITH SPINACH

Chef Thomas Keller / Chapter Two



MASTERCLASS

SAUTÉ: SALMON WITH SPINACH

“One of the things that I encourage you all to do is to create relationships with a fishmonger in your local area. Work with them on the fish that they feel is the most sustainable and, of course, the freshest for that time of year.”

This is a dish that Chef Keller prepares for himself two to three times a week. It requires only one pan, even for 4 servings, as he demonstrates in this lesson.

His salmon of choice is Ōra King salmon from a farm in New Zealand that has earned awards for its quality of products and sustainable practices. The fillet includes the top sirloin and the belly. The belly is beautifully fatty, but as Chef Keller explains, it can be more difficult to cook because its skin is thicker. If you cannot find King salmon, use the best-quality salmon at your disposal.

Chef Keller preps the fish by trimming it and removing the pin bones. Because salmon bones are oily, Chef Keller does not use them for stock, as he does with the bones of milder whitefish. Prior to sautéing, Chef Keller squeegees the salmon skin by running his knife along it to remove the moisture, a step that helps the

skin get crisp. He also tempers the fish, bringing it to room temperature, which allows it to cook more evenly and helps prevent the skin from sticking to the pan.

Chef Keller cooks the salmon almost entirely skin side down, “kissing” the flesh side briefly to the pan, before serving the salmon medium rare to medium, or what the French call “au point.”

After draining the oil, he sautés the spinach in the same pan, with minced shallot, and plates the greens and fish with a chow-chow vinaigrette made with a pickled vegetable medley. (Chef Keller teaches you how to make chow-chow in chapter 19 of his second MasterClass, and the recipe is available in this chapter.) He encourages you to try marrying the salmon with other ingredients and flavor combinations that appeal to you. That sort of experimentation is what cooking is all about.

SAUTÉ: SALMON WITH SPINACH

Mise en Place

Ingredients

Canola oil

4 portions Öra King salmon from the top loin,
with skin, approximately 175 grams each

1 lemon

700 grams spinach leaves, rinsed and dried

Kosher salt

50 grams shallot, minced

Chow-chow vinaigrette (recipe on page 11)

Maldon sea salt

Equipment

10-inch sauté pan

Palette knife (optional)

Plating spoons

Sheet pan, lined with paper towels

Heat-safe bowl

Rasp grater

Plate lined with paper towels

METHOD

Heat a sauté pan over medium-high heat. Pour in enough canola oil to thinly coat the bottom of the pan. When the oil is shimmering, lay the salmon into the pan skin side down, with the short edge of the salmon piece closest to you going down first (to prevent being splashed by the hot oil).

When the edges of the salmon begin to brown, reduce the heat to medium and cook until the salmon has become opaque about $\frac{1}{3}$ of the way up the sides, 3 to 4 minutes. Use a plating spoon to continuously baste the salmon with the hot oil to help cook it through, about 2 minutes.

Using a plating spoon or a long, flexible palette knife, flip the salmon and cook just long enough to “kiss” the flesh side, about 30 seconds, basting a few times.

Turn off the heat and transfer the salmon to a sheet pan lined with paper towels to drain. Pour off the oil from the pan into a heat-safe bowl.

Use a rasp grater to grate the lemon zest over the spinach leaves and gently mix to distribute the zest in the spinach. Set the sauté pan over high heat. Add $\frac{1}{3}$ of the spinach, season with a pinch of salt and $\frac{1}{3}$ of the minced shallot; then layer another $\frac{1}{3}$ of the spinach, $\frac{1}{3}$ of the minced shallot, and another pinch of salt. Finish with a final layer of spinach, minced shallot, and salt, and stir with a plating spoon for 30 seconds. Turn the heat down to medium and continue stirring just until the spinach is wilted, not overcooked. Drain the spinach on a paper towel-lined plate.

Divide the spinach among 4 plates and top with a salmon fillet, skin side up. Spoon the pickled chow-chow vinaigrette around the fish and finish with a squeeze of lemon juice over the vinaigrette and a sprinkle of Maldon sea salt over the salmon.

SAUTÉ: SALMON WITH SPINACH

PICKLED CHOW-CHOW VINAIGRETTE

The chow-chow is made with Chef Keller's pickled vegetables. Make the pickled vegetables first.

FOR THE PICKLED VEGETABLES:

Note: The quantity of vegetables is proportional to the size of the pickling jar used; both can be varied according to your needs.

METHOD

When preparing your vegetables, cut them to a size that is as uniform as possible for consistent pickling. Add the mixed vegetables to the canning jar. Combine water, vinegar, sugar, thyme, mustard seeds, and garlic in a saucepot and bring to a simmer. Pour the hot pickling liquid over vegetables to submerge them. Seal the jar. Chill and store the jar in the refrigerator.

Mise en Place

Ingredients

85 grams cauliflower florets
5 red pearl onions, halved
100 grams cucumbers, oblique cut
(Chef Keller demonstrates how to make an oblique cut in chapter 8 of his first MasterClass)
75 grams radishes, quartered
35 grams jingle bell peppers or other small variety
400 grams water
200 grams white wine vinegar
200 grams granulated sugar
Thyme sprigs
Mustard seeds
4 cloves garlic, peeled and lightly crushed

Equipment

Cutting board
Paring knife
Canning jar
3-quart saucepot

SAUTÉ: SALMON WITH SPINACH

CHOW-CHOW VINAIGRETTE

Mise en Place

Ingredients

150 grams pickled vegetables
(recipe on page 11)
Whole-grain mustard, to taste
10 grams shallot, minced
60 grams extra virgin olive oil
35 grams pickling liquid from
pickled vegetables
½ lemon
Kosher salt
Chives, minced

Equipment

Cutting board
Chef's knife
Mixing bowl
Plating spoon

METHOD

Remove the pickled vegetables from the jar and coarsely chop. Place in a bowl with mustard, shallot, olive oil, and pickling liquid, and mix gently with a plating spoon. Add a squeeze of lemon juice, season with salt, and stir to combine. Garnish with chives.

SAUTÉ: SALMON WITH SPINACH

LEARN MORE: KING SALMON

Chef Keller's salmon of choice is Ōra King salmon. The largest and fattiest of salmon, it makes up only about .7 percent of the global salmon population. King salmon have the highest oil content of all salmon species, a trait that keeps the salmon moist and reduces the risk of overcooking. King salmon has a buttery and tender texture. Its flesh is softer and more delicate than other salmon species, such as Atlantic and Coho.

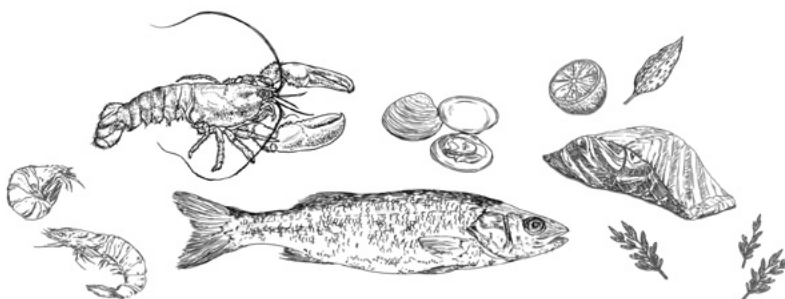
Ōra King Salmon is farm-raised by the New Zealand King Salmon Company, in the South Island's Marlborough Sounds. The operation is the first and only King salmon ocean-farm to receive the "Best Choice" rating from the Monterey Bay Aquarium Seafood Watch program, which means they're well managed and caught or farmed in ways that cause little harm to habitats or other wildlife. Ōra King salmon are raised without antibiotics, steroids, growth hormones, vaccines, or chemicals. Find state-by-state guides to buying sustainable seafood on the

Monterey Bay Aquarium Seafood Watch website: seafoodwatch.org.

LEARN MORE: BRINING FISH

Chef Keller recommends brining the fish prior to cooking in order to season your fish uniformly and throughout the meat. There are two types of brine: a dry brine and a wet brine. A wet-brine method is typically used for fish. To brine salmon, submerge the fish in a 10 percent salt-brine solution—100 grams of salt per 1 liter of water used—for 15 to 20 minutes. Remove the salmon from the brine and rinse it under cold water to remove the excess salt. Dry the salmon by gently blotting it with paper towels. The salmon is now ready to be sautéed.

Brining works well for any fish, though do not brine anything that you would serve raw (e.g., tuna), as it may affect the color of the fish. When brining, consider that thinner fillets take less time to brine. Also, adjust the seasoning accordingly during cooking.



SAUTÉ: DOVER SOLE WITH POMMES CHÂTEAU

Chef Thomas Keller / Chapter Three



MASTERCLASS

SAUTÉ: DOVER SOLE WITH POMMES CHÂTEAU

“If you have the opportunity, I would certainly recommend ordering a Dover sole at a restaurant where they have tableside service, because to see a server fillet a Dover sole and serve it to you at the table is really a wonderful experience.”

There are two fish that Chef Keller regards as seafood royalty. One is turbot (which you’ll learn about in Chapter 11 of this class). The other is Dover sole, a firm and meaty flatfish that lends itself to several classic preparations. Here, Chef Keller sautés Dover sole and serves it with a *beurre meunière* sauce and a garnish of *pommes château*, herb-boiled potatoes that are also a classic accompaniment to *chateaubriand*.

Traditionally, *pommes château* is made with a potato cut to seven sides, with six of the sides cut curved and one kept flat and slightly wider than the others so that the potato can lie flat on the plate. Using a bird’s beak paring knife, Chef Keller demonstrates how to “turn,” or shape, the potatoes, noting that the same turning method can be applied to other dense vegetables, including carrots, turnips, rutabagas, and beets. The technique takes practice. It also produces a fair amount of trim—if this doesn’t appeal to you, you can simply peel the potatoes instead. Potato trim can be used to make rustic mashed potatoes, sautéed in clarified butter after cutting the trim into semi-uniform pieces, or used to make a *vichyssoise* (puréed soup made with potatoes, leeks, onions, cream, and chicken stock—traditionally served cold).

For the Dover sole itself, Chef Keller demonstrates two ways to remove the skin from the fish: by dipping the tail in boiling water to loosen the skin from the tail and by scraping the skin at the tail with a knife. The latter takes more effort, but the result is the same: once the skin at the end of the tail separates from the skeleton, the skin can be peeled off the entire fish in one piece. Chef Keller also removes the dorsal fin, as well as the head and tail. He sautés the fish in clarified butter, which imparts a buttery flavor. (Note: Chef Keller teaches you how to clarify butter in his first MasterClass. The recipe is included here on page 16.) He sautés the sole at a relatively moderate heat to allow time for the flesh around the bones to cook.

There are three brown butter sauces that traditionally accompany Dover sole: *beurre meunière*, which is made with parsley and lemon; *beurre amandine*, with the addition of raw almonds; and *beurre grenobloise*, with the addition of lemon, capers, and croutons. Chef Keller demonstrates how to make the first two sauces.

Dover sole, also known as black sole, is one of many kinds of flatfish that lend themselves well to this recipe. Others include lemon sole, petrale sole, and small flounder. Talk to your fishmonger about these fish and find out the freshest options available to you.

SAUTÉ: DOVER SOLE WITH POMMES CHÂTEAU

DOVER SOLE WITH POMMES CHÂTEAU

Mise en Place

Ingredients

Pommes château (recipe on page 17)
Quick clarified butter (recipe on page 17)
1 Dover sole, approximately 600 grams, skin removed, cleaned, dorsal fins, head, and tail removed
Kosher salt
All-purpose flour
Beurre meunière sauce (recipe on page 18)
Maldon sea salt
1 lemon, cut into crowns for serving

Equipment

12-inch nonstick sauté pan
Kitchen towel
Large platter (for the flour)
Plating spoons
Paring knife
Cooling rack set over a sheet pan
Cutting board

METHOD

Start the pommes château.

Set a sauté pan over medium-high heat. Pour in enough clarified butter to coat the bottom of the pan by approximately 1/8 inch.

Pat the sole dry with a clean kitchen towel. Season both sides of the fish with salt. Dredge the fish in a large platter of flour, lift it out of the flour, and use your fingers to gently tap the fish to remove any excess flour. When the butter begins to smoke, place the fish in the pan thinner side (i.e., white side) up, and reduce the heat to medium-low. After 2 minutes, use a plating spoon to baste the fish with the hot butter to expedite cooking, approximately 1 minute. Turn the fish over and baste occasionally for 2 minutes.

Check the doneness of the fish by testing the resistance with a paring knife: It's cooked if the blade easily penetrates the fish; the fish is still raw if the knife bounces back. Once the top side of the fish is cooked, turn the fish over and baste until the other side of the fish is cooked. Transfer the fish to a cooling rack set over a sheet pan to drain.

Finish the pommes château.

Transfer the fish to a clean cutting board. The thinner side (i.e., white side) of the sole should be facing up. Use a plating spoon to score the fish down its vertebrae and separate the meat from the spine, creating two bottom fillets. Carefully transfer the fillets, cooked side down, to a plate. Remove the backbone by using the spoon to guide and separate the backbone from the flesh. Create two more fillets with the thicker side of the fish and place these fillets, cooked side up, on top of the two bottom fillets, reassembling the fish on the plate.

Make the beurre meunière. Arrange the finished pommes château next to the fish and spoon the beurre meunière over the top. Finish with a sprinkle of Maldon sea salt and crowned lemons.

SAUTÉ: DOVER SOLE WITH POMMES CHÂTEAU

QUICK CLARIFIED BUTTER

Mise en Place

Ingredient

1 kilogram unsalted butter

Equipment

Heavy-duty sealable plastic bag

12-quart stockpot half-filled
with water, at a simmer

Ice bath or container of water (optional)

Kitchen shears

Bowl for trim

METHOD

Place the butter in a heavy-duty kitchen bag and seal. Set into a stockpot of simmering water. Once the butter has melted, transfer the bag to the refrigerator with one corner of the bag at the bottommost position. It is helpful to chill the bag in an ice bath or container of water to help maintain the position.

Once the clarified butter has solidified, take the bag out of the refrigerator, hold it over a bowl, and snip the bottom corner to let the milk and solids drain into the bowl. Rinse the block of solidified clarified butter under a faucet for a few seconds to remove any remaining milk solids, then dry. Now you have clarified butter that can be cut into pieces for storage in the refrigerator or freezer, or melted down for immediate use.

POMMES CHÂTEAU

Mise en Place

Ingredients

1 red bliss potato (yields four pieces)

0.5 grams black peppercorns

2 thyme sprigs

1 bay leaf

2 cloves garlic, skin on, lightly crushed

Kosher salt

10 grams unsalted butter

10 grams clarified butter

Equipment

Paring knife

Bird's beak paring knife

Cutting board

2 small saucepots

Slotted spoon

METHOD

Trim the ends off the potato, then quarter it lengthwise into rectangles. Holding the potato lengthwise by its cut ends, use a bird's beak paring knife to remove the skin of the potato and shape it into an oval with seven sides—six equal, curved sides, plus one wider, flat side.

Place the potatoes, peppercorns, thyme, bay leaf, garlic, and salt in a saucepot, and add enough cold water to cover the potatoes by 1 inch (when boiling potatoes, always start them in cold water so they cook more evenly and keep their shape). Bring the water up to a simmer and cook the potatoes until they are almost tender (i.e., slightly undercooked), approximately 12 minutes. Turn off the heat and keep the potatoes in the warm water.

Start sautéing the sole.

SAUTÉ: DOVER SOLE WITH POMMES CHÂTEAU

POMMES CHÂTEAU

Once the sole has been cooked, make sure that the potatoes are now tender. The potatoes are done when the potato slides off the blade when pierced with a paring knife.

Use a slotted spoon to transfer the potatoes from the cooking water to a small saucepot set over medium-low heat. Add in the butter and clarified butter. Swirl the saucepot to coat the potatoes in the butter. Season with salt.

BEURRE MEUNIÈRE

Mise en Place

Ingredients

50 grams unsalted butter

½ lemon

Italian parsley, finely chopped

Equipment

Small saucepot

Plating spoon

METHOD

Heat the saucepot on medium heat. Add in the butter and let it sizzle. Swirl the saucepot as the butter gets frothy and begins to brown. When the butter approaches a medium brown color and has a nutty aroma, after about 1 minute, stop the cooking by squeezing the juice from half a lemon into the saucepot. Add in the parsley and stir to combine.

To turn your beurre meunière into beurre amandine, as Chef Keller does, add raw, sliced almonds to your beurre meunière in the saucepot over medium heat and cook until the almonds are toasted. Arrest the cooking by adding a little more butter to the sauce.

SAUTÉ: DOVER SOLE WITH POMMES CHÂTEAU

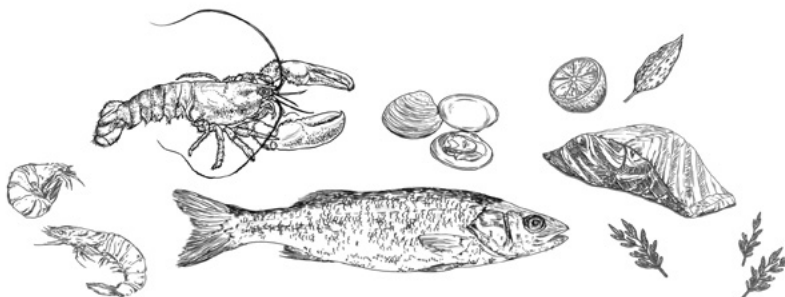
LEARN MORE: À LA MEUNIÈRE

Cooking “à la meunière” directly translates to “in the style of the miller’s wife” and usually refers to dredging fish in flour and sautéing it in butter. *Beurre meunière* is the simplest of French fish sauces: butter melted and cooked until golden brown, then finished with lemon juice and freshly chopped parsley. It’s a building block for many other fish sauces, such as *beurre amandine* and *beurre grenobloise*.

LEARN MORE: CHOOSING THE RIGHT POTATO

For *pommes château*, a dense potato, such as red bliss or Yukon Gold, works best. Learn more about the best uses for different potato varieties:

- Red bliss potatoes, a waxy variety, have high moisture and sugar content. When roasted or fried, they brown very quickly but do not become crisp. They may be gummy when mashed and are instead best for boiling and steaming.
- The russet potato was originally hybridized in the 1870s and exploded into popularity in post-WWII America with the advent of fast food and frozen french fries. Russets now account for 70 percent of potato sales in the United States. Russets are considered a “floury” potato with large starch granules; therefore, they are not ideal for mashing, as they will have a coarse texture. They are best for baking and frying.
- Yukon Gold potatoes are a jack-of-all-trades potato. They are suitable for frying, baking, puréeing, and boiling, but they may not be the best in each cooking method. Yukon Gold potatoes were developed in Canada in the 1960s as a hybrid of ancient Peruvian golden potato varieties. Thanks to their fine texture, dry interior, and good flavor, they quickly found favor in the chef community when they became commercially available.
- There are many varieties of fingerling potatoes you may encounter at your local market. Each may have different characteristics. *La Ratte* fingerling potatoes are the best for making *pommes purée*. Their dry, finely textured flesh will produce the smoothest and most refined potato purée and will allow for the most fat to be incorporated. Learn how to make *pommes purée* in Chef Keller’s first MasterClass.



PAN ROASTING: MONKFISH TAIL WITH BEURRE ROUGE

Chef Thomas Keller / Chapter Four



MASTERCLASS

PAN ROASTING: MONKFISH TAIL WITH BEURRE ROUGE

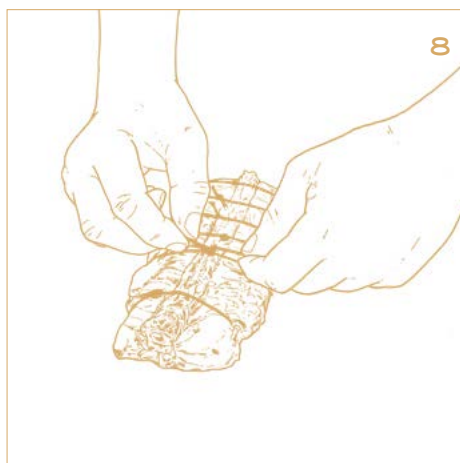
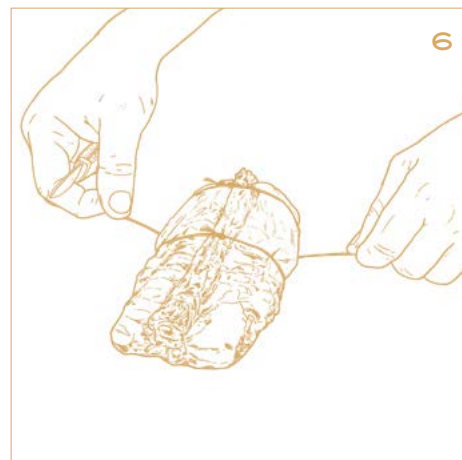
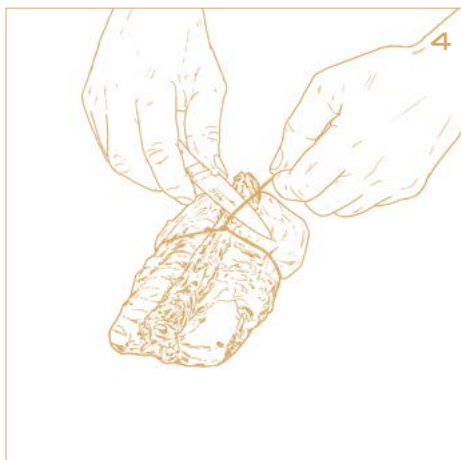
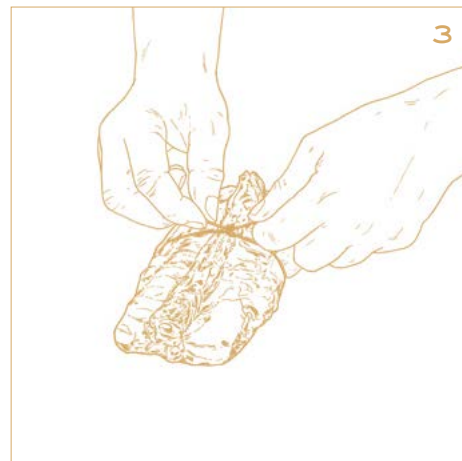
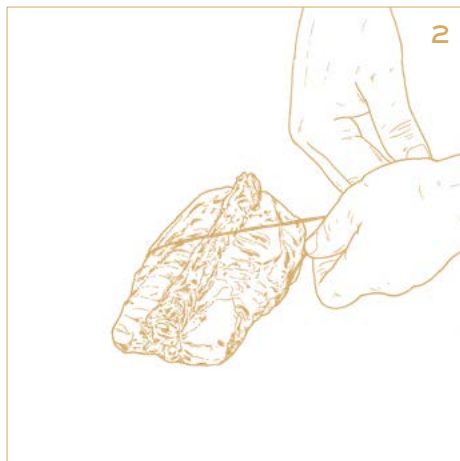
“I love monkfish. It’s one of those fish that is firm in flesh and very meaty and lends itself incredibly well to roasting.”

This elegant recipe marries monkfish with beurre rouge, a red wine butter sauce. If that sounds unusual, that’s because it is: White wine sauces are more common with seafood, but beurre rouge is a beautiful match for the cooking technique used for the monkfish. The richness and intensity of the sauce can be adjusted by modifying the amount of butter you use. While the reduction for the beurre rouge can be made in advance, the sauce should be emulsified with the butter just before serving.

Prior to pan roasting, Chef Keller trusses the monkfish using a slipknot technique he learned during his days as a Boy Scout. He does this so that the meat will stay on the bone, though he stresses the importance of trussing gently so as not to damage the meat. It will also make the trussing easier to remove when you’re ready to serve. If you can’t find monkfish tail, Chef Keller suggests another firm and meaty fish, such as sturgeon, swordfish, or striped bass (these fish do not need to be trussed because they are usually available as individual fillets off the bone).

PAN ROASTING: MONKFISH TAIL WITH BEURRE ROUGE

TRUSSING A MONKFISH: A STEP-BY-STEP GUIDE



PAN ROASTING: MONKFISH TAIL WITH BEURRE ROUGE

PAN-ROASTED MONKFISH TAIL WITH BEURRE ROUGE

Mise en Place

Ingredients

1 bone-in monkfish tail section that is uniformly consistent in circumference, trimmed, skin removed
Canola oil
Kosher salt
50 grams unsalted butter, cut into ½-inch cubes
2 cloves garlic, skin on, lightly crushed
3 sprigs thyme
Beurre rouge (recipe on page 25)
Maldon sea salt
4 sprigs chervil

Equipment

Cutting board
Kitchen twine
Kitchen scissors or paring knife
12-inch cast-iron skillet
Fish spatula
Cooling rack set over a sheet pan
Heat-safe bowl
Plating spoon
Instant-read thermometer
Paper towels
Chef's knife

METHOD

TO TRUSS

With the backbone on the monkfish facing up, gently truss the monkfish tail to create a consistent shape and density. Starting at the center of the tail, use the kitchen twine to make a truss and tie with a slipknot. Sever the twine with kitchen scissors or a paring knife. Make the second truss at the end of the tail. Place trusses between the center and the end trusses, so they are spaced evenly at approximately 1-inch intervals. Repeat this process for the other half of the monkfish tail.

TO COOK

Preheat the oven to 350°F. Meanwhile, start the beurre rouge reduction.

Heat a cast-iron skillet over high heat and generously cover the bottom of the skillet with canola oil. Season the trussed monkfish with salt on both sides. Once the oil starts to smoke, add the monkfish, bone side up, to the pan to sear. After about 30 seconds, reduce the heat to medium-high. After 2 minutes, once the fish is well browned, use the fish spatula to rotate the fish on its edge, balancing it against the side of the skillet. After 1 minute, rotate the fish to brown the opposite edge, again balancing it against the side of the skillet.

Turn the heat down to low and transfer the monkfish to a cooling rack set over a sheet pan. Pour the oil from the skillet into a heat-safe bowl. Return the skillet to the stove and add a fresh layer of canola oil. Add 2/3 of the butter and return the fish, bone side down, to the skillet. Add the garlic and thyme onto the top of the fish. Add the remaining butter and return the heat to medium-high. Using a plating spoon, baste the monkfish with the butter for approximately 30 seconds, then place it in the oven.

PAN ROASTING: MONKFISH TAIL WITH BEURRE ROUGE

PAN-ROASTED MONKFISH TAIL WITH BEURRE ROUGE

Roast the fish in the oven until the monkfish is cooked through, 12 to 15 minutes. The fish is cooked when a thermometer inserted into the thickest part of the fish registers 135°F.

Remove the fish from the oven and baste a few more times. Transfer the fish to a cooling rack set over a sheet pan, spoon the butter evenly over the top of the fish, and let it rest for 10 minutes. While the fish rests, finish the beurre rouge.

With the monkfish backbone side down, remove the twine with kitchen scissors. Place the monkfish on a paper towel on the cutting board to drain. Use a chef's knife to carve the monkfish tail along the bone, creating two long pieces of fish. Place each piece of fish, cut side down, on a paper towel to wick away additional moisture. Trim the ends of the fish and cut each piece in half. Season with Maldon sea salt.

Spoon beurre rouge in the center of each serving dish and top with a piece of monkfish. Garnish with a sprig of chervil.

PAN ROASTING: MONKFISH TAIL WITH BEURRE ROUGE

BEURRE ROUGE

Mise en Place

Ingredients

3 Italian parsley stems
3 sprigs thyme
8 black peppercorns
1 fresh bay leaf
400 grams red wine
125 grams port wine
30 grams mushrooms, thinly sliced
50 grams shallot, thinly sliced
25 grams carrots, peeled, thinly sliced
150 grams unsalted butter, cut
into ½-inch cubes, cold
Kosher salt

Equipment

Cheesecloth
Kitchen scissors or paring knife
Kitchen twine
Medium saucepot
Fine-mesh sieve
Small saucepot
Plating spoon
Sauce whisk

METHOD

Make an herb sachet by placing the parsley stems, thyme, peppercorns, and bay leaf on top of a small square of cheesecloth. Fold the short sides of the square in toward the center, then roll into a sachet. Using kitchen scissors or a paring knife, cut a length of kitchen twine. Wrap the kitchen twine twice around one end of the sachet and twice around the other end, and tie a slipknot in the center.

Combine the wines, mushrooms, shallot, carrots, and sachet in a medium saucepot.

Simmer over medium-high heat until the liquid has reduced by half, about 20 minutes. Strain the reduction through a sieve into a small saucepot while squeezing the vegetables against the side of the medium saucepot with a plating spoon to release as much of the reduction as possible. Tip the vegetables into the sieve, and finish straining.

To complete the beurre rouge, simmer the reduction in the small saucepot over medium-high heat until large bubbles form and the consistency becomes more syrupy, lightly coating the bottom of the saucepot.

Reduce the heat to medium-low and begin adding cold butter one piece at a time, whisking constantly to maintain the emulsion. It is important that the sauce does not get too hot or simmer, as that would break the emulsion. Once the sauce is at the desired level of richness and intensity, turn off the heat, and season with salt.

LEARN MORE: CAST IRON

In this recipe, Chef Keller uses a cast-iron skillet, a versatile piece of cookware that conducts heat evenly, retains heat, and recovers quickly. Cast-iron skillets are great for a range of everyday cooking, from frying eggs and potatoes to pan roasting chicken

BAKING: SALT-BAKED BRANZINO WITH FENNEL AND RED PEPPER VINAIGRETTE

Chef Thomas Keller / Chapter Five



MASTERCLASS

BAKING: SALT-BAKED BRANZINO WITH FENNEL AND RED PEPPER VINAIGRETTE

“One of the reasons I love this is because we are encasing the fish in the salt and it’s actually steaming in its own juices.”

and steak. Learn more about cast-iron cookware in Chef Keller’s first MasterClass.

You’ve probably baked fish fillets in the oven before—but this is not the same old oven-baked fish. This is whole branzino, also known as sea bass, or, in French, *loup de mer*, baked in a salt crust. The crust seals in moisture, allowing the fish to steam and cook in its own juices, while the fish’s skin prevents the salt from penetrating its flesh. The crust is a mix of kosher salt and egg whites that looks and feels like wet sand on a beach.

Before packing the fish in the salt crust, remove its fins and gills. You may also need to trim its tail so that the whole fish fits in your baking dish. Take care not to pierce its skin or expose its flesh; you don’t want the salt from the crust to seep inside. Chef Keller stuffs the fish’s cavity with lemon slices and fennel

tops. Don’t feel obliged to use that same combination, but it’s important to fill the cavity with something to maintain the fish’s natural shape.

Chef Keller serves the fish here with caramelized fennel bulbs cooked sous vide (you can also big-pot blanch the bulbs, which Chef Keller teaches in chapter 7 of his first MasterClass) and a red pepper vinaigrette that adds a beautiful bright color and an acidic pop of flavor. The vinaigrette can be made with other vegetable and fruit juices, including carrots, beets, and oranges, and Chef Keller encourages you to try some of these other options. “Experiment,” he says. “Let your imagination run wild.”

If you cannot source branzino, other similarly sized round fish with thin skin and a robust bone structure, such as small striped bass or snapper, work well.

BAKING: SALT-BAKED BRANZINO WITH FENNEL AND RED PEPPER VINAIGRETTE

SALT-BAKED BRANZINO

Mise en Place

Ingredients

1 whole branzino, approximately 1 pound, scaled, gutted, fins and gills removed, rinsed and dried off
725 grams kosher salt
8 large egg whites
3 ¼-inch-thick slices lemon
Fennel tops and fronds
Lemon
Extra-virgin olive oil
Red pepper vinaigrette (recipe on page 31)
Caramelized fennel bulbs cooked sous vide (recipe on page 30)
Picked fennel fronds for garnish

Equipment

Cutting board
Chef's knife
Large Mixing bowl
Gratin dish or oval roaster
Instant-read thermometer
Serrated knife
Kitchen towels
Paper towels
Fish tweezers
Plating spoon

METHOD

Preheat oven to 350°F. Trim off the tail end of the fish, if necessary, to fit the length of the gratin dish.

In a large mixing bowl, combine the salt and egg whites, and mix with your hands until the combination has the feel of wet sand. To ensure that you have added the right amount of egg whites, grab a handful of the mixture, squeeze it, then let it go. It should fall without any of it sticking to your hand. If it sticks to your hand, incorporate more egg white.

Overlap, or “shingle,” the lemon slices, then add the lemon and the fennel into the fish’s cavity until the branzino assumes its natural shape. Pack the gratin dish or oval roaster with a 1/3-inch-thick layer of the salt–egg white mixture. Place the fish on the bed of the salt–egg white mixture, and cover it with more of the mixture, gently patting it down into an even ½-inch layer that envelops the fish. Use additional mixture to fill in any cracks in the salt crust. Transfer the gratin dish or oval roaster to the oven and bake for 20 minutes. Remove the fish from the oven when a thermometer inserted through the crust into the thickest part of the fish registers 125°F.

After removing the fish from the oven, let it rest for 5 to 10 minutes but not longer. Use a serrated knife to slice around the circumference of the crust, carefully avoiding cutting into the fish. Lift the salt crust off. Transfer the fish onto a kitchen towel placed on the cutting board. Dust off any residual salt from the fish and cutting board. Transfer the fish onto two layers of paper towels on the cutting board to allow for ease of maneuvering the fish.

Working gently, use a serrated knife to score the skin around the head and down the spine of the fish. Pull back the skin and remove it. Use the tip of the knife to gently scrape off the bloodline that runs down the length of the fish between the two fillets. Cut

BAKING: SALT-BAKED BRANZINO WITH FENNEL AND RED PEPPER VINAIGRETTE

around the head down to the bone and then cut following the line of the fish's vertebrae. Use the length of the knife blade to gently lift and remove the top fillet off the vertebrae and any dorsal bones. Remove the bottom fillet in the same manner and place it skin side down on the cutting board. Gently scrape away the membrane from the rib cage. Use fish tweezers to remove the rib bones, then use a chef's knife to trim the fillet on the belly side to achieve a straight edge. Carefully transfer the fillets to a plate, skin side up.

Remove the lemons and fennel. Lift the vertebrae starting from the tail end and remove it. Use a chef's knife to cut the head off the fish. Separate the dorsal bone from the flesh. Gently scrape the membrane away from the rib cage and use tweezers to remove the belly bones. Trim any fin bones away from the flesh. Place two layers of paper towels over the fish. Holding the two ends of the top and bottom paper towels, flip the fish over. Remove the skin and bloodline as with the previous side. Separate the fillets and transfer them to another plate, skin side up.

Finish the dish by squeezing lemon juice over the fish and adding a drizzle of extra-virgin olive oil. Spoon the red pepper vinaigrette around the fish. Place a few caramelized fennel wedges atop the fillets, and garnish with freshly picked fennel fronds.

BAKING: SALT-BAKED BRANZINO WITH FENNEL AND RED PEPPER VINAIGRETTE

CARAMELIZED FENNEL BULBS COOKED SOUS VIDE

Mise en Place

Ingredients

1 large fennel bulb, approximately
300 grams after trimming
30 grams extra-virgin olive oil
Kosher salt
1 clove garlic, peeled, root removed
1 sprig thyme
Canola oil

Equipment

Plastic container for water bath
Immersion circulator
Cutting board
Paring knife
Mixing bowl
Vacuum sealer bag
Chamber vacuum sealer
Aluminum foil
Ice bath
Cooling rack set over a sheet pan
Nonstick sauté pan
Plating spoon
Plate lined with paper towels

METHOD

Prepare a water bath with an immersion circulator set to 85°C.

Trim the root end of the fennel bulb, then remove the stalks and the outer layers of the bulb. Cut the bulb into six $\frac{3}{4}$ -inch wedges. Place the pieces in a mixing bowl and toss them with olive oil and a pinch of salt. Transfer the contents into a vacuum sealer bag, arranging the wedges in a single layer, and add in the garlic and thyme. Vacuum seal the bag and place it into the water bath when it reaches 85°C. Cover the water bath with aluminum foil for heat retention and minimizing evaporation.

Cook the fennel for 40 minutes, or until tender.

Immediately plunge the bag into an ice bath to chill completely. Open the bag and transfer the fennel onto a cooling rack set over a sheet pan to drain. Discard the thyme and garlic.

Heat a nonstick sauté pan over medium-high heat. Pour in enough canola oil to thinly coat the bottom of the pan. When the oil is shimmering, place the fennel wedges into the pan. Caramelize the fennel until golden brown, about 3 minutes. Flip the wedges to caramelize the opposite side, another 3 minutes. Transfer the fennel to a plate lined with paper towels to drain.

BAKING: SALT-BAKED BRANZINO WITH FENNEL AND RED PEPPER VINAIGRETTE

RED PEPPER VINAIGRETTE

Mise en Place

Ingredients

180 grams red bell pepper juice, strained
Extra-virgin olive oil
½ lemon
Kosher salt
20 grams red bell pepper, 1/8-inch dice

Note: If you don't have a juicer at home to make red pepper juice, Chef Keller recommends experimenting using store-bought juices such as beet juice, carrot juice, or orange juice.

Equipment

Small saucepot
Small mixing bowl
Plating spoon

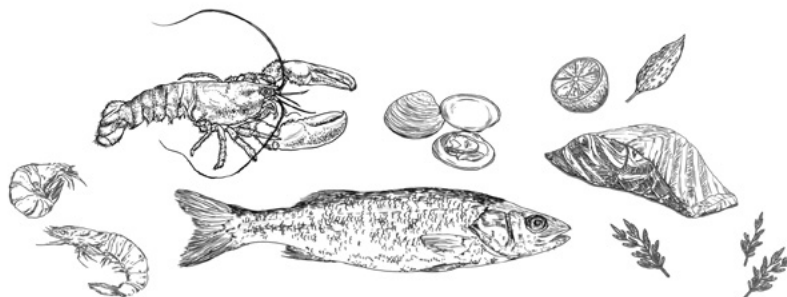
METHOD

In a small saucepot set over medium heat, slowly simmer the red bell pepper juice until it has reduced to a syrup consistency and is bright red, about 30 minutes.

Transfer the juice to a bowl. Drizzle in extra-virgin olive oil, squeeze in lemon juice to taste, and season with salt. Add the red bell pepper dice. Gently stir together.

LEARN MORE: BLOODLINES

The bloodline of a fish is a strip of blood-rich muscle that runs through the center of the fillet. It is perfectly edible, but it has a slightly more intense flavor than the rest of the fish. Some people enjoy this flavor and leave the bloodline intact. Others choose to remove it for reasons of aesthetics or taste. Doing so is fairly simple, as Chef Keller demonstrates.



BUTTER-POACHED LOBSTER WITH MACARONI AND CHEESE

Chef Thomas Keller / Chapter Six



MASTERCLASS

BUTTER-POACHED LOBSTER WITH MACARONI AND CHEESE

“I wanted to figure out a way to remove the lobster meat when it was still raw so we could treat it like we do our fish. We don’t precook our fish. We cook our fish à la minute.”

Early in his career, Chef Keller worked in restaurants where it was standard practice to precook lobsters and chill them in advance of dinner service. The finished dishes lacked the wonderfully fresh flavors of lobster in drawn butter that he’d enjoyed as a boy.

Inspired by childhood memories, Chef Keller went on to develop a technique at The French Laundry that allows the lobster meat to be removed from its shell while it’s still mostly raw prior to poaching in butter. Doing so gives Chef Keller more control over the lobster’s taste and texture. The technique involves steeping lobsters briefly with boiling water acidulated with distilled vinegar. The vinegar helps set the albumin in the lobster meat, making it easier to remove the meat cleanly from the shell. Chef Keller demonstrates this technique while sharing tips for removing the lobster meat from the claws, tail, and legs. He saves the lobster bodies for a lobster broth.

Chef Keller makes lobster broth by making a stock from the lobster carcasses, reducing it to a glaze, and then adding heavy cream. This creamy broth can be enjoyed on its own or used for a luxurious lobster mac and cheese.

To complete the dish, poach the lobster meat in butter. This gentle poaching permeates the meat with buttery flavor and cooks it to exquisite tenderness, a far cry from the tough lobster meat that results from violent cooking over high heat.

Butter-poached lobster is extremely versatile and can be used as a garnish in a variety of dishes. The dish you’re making here is one of the most famous at The French Laundry. It’s even better than the lobster Chef Keller recalls so fondly from his youth.

BUTTER-POACHED LOBSTER WITH MACARONI AND CHEESE

LOBSTER MEAT

Mise en Place

Ingredients

2 live lobsters, 1¼ pounds each

Distilled white vinegar

Equipment

Large heat-proof container

Large stockpot

Slotted spoon

Kitchen towels

Rubber gloves (optional)

Tweezers

Kitchen scissors

Kitchen shears

Cutting board

Chef's knife

Rolling pin

Ice bath (optional)

Paper towels (optional)

Plate lined with paper towels (optional)

Plastic wrap (optional)

METHOD

STEEP THE LOBSTERS

Place the lobsters in a large heat-proof container, then pour in enough cold water to cover the bodies. Drain out and measure the water, and then transfer the liquid to a large stockpot. Bring the water to a boil. For every 8 quarts of water, add in ½ cup of distilled white vinegar. Pour the boiling liquid over the lobsters and let them steep for 90 seconds. Using a slotted spoon, remove the lobsters. Do not discard the water.

While the lobsters are still hot, twist and detach all claws and legs, and place them back into the hot water for 5 minutes. Handle the lobsters carefully—consider using a kitchen towel or rubber gloves to remove the claws and legs.

It is important to work with the lobsters while they are still hot, which facilitates separating the meat from the shell.

FOR THE TAILS

Separate the tail from the body. While holding the tail fan flat, bend it backward to detach and remove the shell from the tail fan as well as the tail segment adjacent to it. Use your thumb to gently push the meat from the tail end toward the head end. Remove the meat from the shell and use tweezers to remove the intestine. Discard the shell.

FOR THE BODIES

Pull back and discard the top shell, including the head and antennae. Remove the tomalley, the roe, and the sac behind the head. Use scissors to cut away the feathery lungs and discard. Rinse the remaining carcass thoroughly under cold water and cut into 1-inch pieces using kitchen shears.

BUTTER-POACHED LOBSTER WITH MACARONI AND CHEESE

FOR THE CLAWS

After 5 minutes, use a slotted spoon to remove the claws from the hot water. Hyperextend the joint between the claw and the knuckle to break off the knuckle. Wiggle the lower pincer to loosen the cartilage inside the claw and pull it to either side to crack the lower pincer from the rest of the claw. Gently pull the pincer straight out to remove it, ideally along with the cartilage.

Holding the claw on the cutting board, use the heel of a chef's knife to crack the top of the shell about $\frac{3}{4}$ inch from the joint where the knuckle was attached, taking care to just crack the shell but not damage the meat. Wiggle the knife to widen the crack. If the shell does not come off, turn the claw over and repeat the procedure. Shake the claw to remove the meat. If needed, use tweezers or your little finger to gently coax the meat out. Alternatively, if the meat does not come out, cut off the very tip of the pincer and blow through the hole to release the meat. If the cartilage was not removed with the lower pincer and remains in the claw, use tweezers to gently pull the cartilage out.

FOR THE KNUCKLES

Use scissors to cut off the top joint of each knuckle that was attached to the lobster's body. Then cut along the length of the knuckle along the smooth back edge. Use your fingers to pry open the knuckle and remove the meat.

FOR THE LEGS

Using scissors, trim the legs at the joints to expose one end. Use a rolling pin to press down on the opposite end and roll toward the open end until the meat comes out.

If not using the lobster meat immediately, plunge the pieces into an ice bath just until they have chilled completely. Remove the lobster meat from the ice bath and gently pat each piece dry with paper towels. Lay the pieces on a paper towel-lined plate, cover with plastic wrap, and refrigerate.

BUTTER-POACHED LOBSTER WITH MACARONI AND CHEESE

CREAMY LOBSTER BROTH

Mise en Place

Ingredients

Canola oil

4 lobster carcasses, rinsed, cut into 1-inch pieces

500 grams tomatoes, chopped

250 grams carrots, chopped

2 sprigs tarragon

600 grams heavy cream

Equipment

Sautoir

Ladle

China cap or coarse mesh strainer set
over a tall plastic container

Wooden spoon

Chinois or fine mesh strainer

Medium saucepot

METHOD

Heat the sautoir over medium-high heat. Add in a very thin coat of oil. When the oil starts to shimmer, add the pieces of lobster carcass. Stir the pieces a few times to heat through, add the tomatoes, carrots, and tarragon, and add enough water to cover the carcass pieces and vegetables. Bring the water to a simmer. Set the sautoir off-center on the heat so that the impurities will collect on one side of the pan and make it easier to skim.

Reduce the heat and simmer the stock for 45 minutes, frequently skimming off any impurities that rise to the top with a ladle. (Chef Keller demonstrates how to skim impurities when making a stock in his second MasterClass. See Chapter 17: Light Chicken Stock.)

Strain half the stock and solids through a China cap, smashing the lobster bodies and vegetables with a wooden spoon to extract all the liquid. Repeat with the remaining stock and solids. Pour the strained stock through a chinois, swirling the stock in the chinois as needed, into a medium saucepot.

Simmer the stock until it is reduced to 1 cup. Add the heavy cream and simmer, skimming occasionally, until the broth is reduced to 2 cups. Strain the broth through a chinois into a container and keep warm for immediate use, or cover and refrigerate the broth for several hours to chill. Store for up to 3 days.

BUTTER-POACHED LOBSTER WITH MACARONI AND CHEESE

BUTTER-POACHED LOBSTER MACARONI AND CHEESE

Mise en Place

Ingredients

454 grams creamy lobster broth
100 grams orzo
1 pound unsalted butter, cut
into ½-inch cubes, cold
Kosher salt
2 lobsters, meat from the tails and claws
60 grams mascarpone
5 grams chives, minced
Maldon sea salt
Parmesan tuiles (recipe on page 39)

Equipment

Small saucepot
Whisk
Strainer
2 medium saucepots
Cutting board
Chef's knife
Plating spoon
Slotted spoon
Plate lined with paper towels

METHOD

REHEAT AND FURTHER REDUCE THE CREAMY LOBSTER BROTH

Place the creamy lobster broth in a small saucepot and bring it to a simmer over medium heat. Whisk vigorously as it reheats. Reduce the broth to 1¼ cups, to a sauce consistency. Set the broth in the saucepot aside.

MAKE THE ORZO

In a medium saucepot, partially cook the orzo a third of the way through in lightly salted boiling water. Drain the cooked pasta in a strainer and rinse it under cold water. Shake the strainer to remove excess water and set the orzo aside.

MAKE THE BEURRE MONTÉ

Make the buerre monté just before you plan to use it. Add enough water to thinly coat the bottom of a medium saucepot. Bring the water to a simmer and turn down the heat to low. Begin whisking cubes of cold butter into the water, bit by bit, to start the emulsion. Once you have established the emulsion, you can add more cubes of butter at a time, whisking continuously to maintain the emulsion. Add water to thin the beurre monté to the desired consistency. Season with kosher salt a bit further than to taste. Keep it in a warm place as you continue to assemble the dish.

ASSEMBLE THE DISH

If the lobster pieces have been refrigerated, bring them to room temperature. Trim the wide end of the tails so that the tail can sit upright flat on the plate, and trim off any shards from the claws. Place the lobster pieces in one layer in the saucepot with the warm beurre monté; the lobster should be almost covered. Poach gently over low heat, basting occasionally, until the lobster is cooked

BUTTER-POACHED LOBSTER WITH MACARONI AND CHEESE

through. The lobster is done as soon as it is opaque and firm to the touch. The tail is overcooked when it starts curling up on itself.

Don't let the *beurre monté* come to a simmer—keeping the heat consistent is crucial to maintaining the emulsion. If it starts to simmer, add a little bit of water to bring the temperature down.

Meanwhile, bring the creamy lobster broth to a simmer over medium heat. Stir in the partially cooked orzo, then the mascarpone. Simmer until the orzo is cooked and the mixture reaches a consistency slightly creamier than risotto, about 3 minutes. Remove the saucepot from the heat and keep warm.

Just before plating, stir the chives into the orzo and taste for seasoning. Divide the orzo between two dishes.

Remove the lobster pieces from the *beurre monté* with a slotted spoon, placing them on a paper towel-lined plate to drain. Season with Maldon sea salt, then arrange a piece of lobster tail and two claws in the center of the orzo and top each serving with a piece of Parmesan tuile.

BUTTER-POACHED LOBSTER WITH MACARONI AND CHEESE

PARMESAN TILES

Mise en Place

Ingredients

Parmesan cheese

Equipment

Rasp grater

Large nonstick fry pan

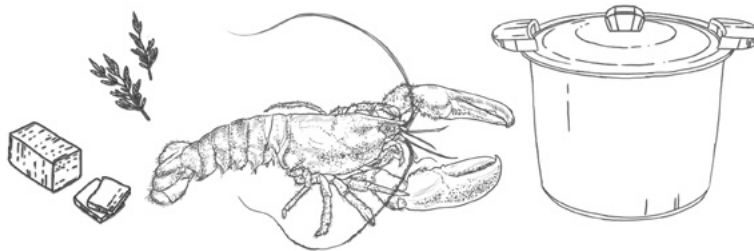
Small offset spatula

Sheet pan lined with parchment paper

METHOD

Just before making the Parmesan tiles, finely grate the Parmesan on a rasp grater. It is important to use freshly grated Parmesan to make sure the cheese knits together.

Heat a large nonstick fry pan over medium heat. Sprinkle the Parmesan cheese in an even layer, covering the bottom of the pan by about 1/8 inch. Cook the Parmesan until it forms a lacy pattern and becomes golden brown. Use a small offset spatula knife to remove the tile from the pan and place it on a sheet pan lined with parchment paper. Allow the tile to cool. Once cooled, break the tile into the desired size and shape. The tiles may be made up to 1 hour ahead of time and stored in a dry area.



OVEN ROASTING: SHRIMP SCAMPI

Chef Thomas Keller / Chapter Seven



MASTERCLASS

OVEN ROASTING: SHRIMP SCAMPI

“I was really proud to be able to follow [my brother’s] mentorship and make shrimp scampi every night. It was a beautiful thing. Just simple, broiled, compound butter, lemon juice, parsley, garlic. Boom.”

This is a nostalgic dish for Chef Keller, who first learned to make shrimp scampi when he was 18 and working as chef de cuisine at the Palm Beach Yacht Club under the mentorship of his older brother, Joseph. The method Joseph taught him is very much the same as the one Chef Keller uses today. He broils the shrimp in a gratin dish with breadcrumbs and a compound butter of raw and roasted garlic, lemon juice, and parsley. This compound butter is similar to the maître d’hôtel butter made daily at Bouchon, only with garlic included. (Chef Keller teaches you

how to make maître d’hôtel butter and serves it with a pan-roasted côte de bœuf in chapter 8 of his second MasterClass.)

Broiling the shrimp is quick and uncomplicated, but an even faster, simpler method is to sauté the shrimp in compound butter on the stovetop. No matter how you cook the dish, Chef Keller recommends that you finish it with a sprinkling of lemon salt. All these years later, it’s the one modification he has made to Joseph’s recipe.

OVEN ROASTING: SHRIMP SCAMPI

SHRIMP SCAMPI

Mise en Place

Ingredients

Canola oil

Breadcrumbs

6 large shrimp, peeled, deveined, tails intact

Garlic compound butter (recipe on page 44)

Lemon salt (recipe on page 43)

Equipment

Gratin dish

Cutting board

Paring knife

Sheet pan

METHOD

Preheat the broiler. Coat the bottom of a gratin dish with a very thin layer of canola oil and dust with breadcrumbs. Butterfly the shrimp up to where the shell of the tail begins. Then open up the halves of the shrimp body and fold them back toward the tail as you place it into the gratin dish (so that most of the meat is exposed). This will ensure that the shrimp cook evenly.

Slice 4 ¼-inch-thick discs of garlic compound butter, remove them from the plastic wrap, and distribute them on the shrimp. Dust with breadcrumbs.

Lay the gratin dish on a sheet pan and place under the broiler until just cooked through, 2 to 3 minutes. The shrimp are done when they are opaque and firm to the touch. Finish with lemon salt and serve.

OVEN ROASTING: SHRIMP SCAMPI

LEMON SALT

Mise en Place

Ingredients

30 grams Maldon sea salt
1 lemon

Equipment

Bowl
Rasp grater

METHOD

Place the Maldon sea salt in a bowl, and use the rasp grater to lightly grate 1 gram of lemon zest into the salt. Mix well to incorporate. Set aside.

ROASTED GARLIC PURÉE

Mise en Place

Ingredients

6 heads garlic
Kosher salt
Canola oil

Equipment

Cutting board
Chef's knife
Aluminum foil
Sheet pan
Tamis or drum sieve
Plastic bench scraper

METHOD

Preheat oven to 350°F. Trim the top 1/3 from the heads of garlic to expose the cloves and place them on a sheet of aluminum foil. Season the garlic with salt and drizzle with canola oil. Seal the garlic in the foil, wrapped *en papillote* (or like a packet), and place it on a sheet pan. Roast for 45 minutes until the garlic cloves are a deep golden brown and soft.

Remove the foil packet from the oven, unseal it, and allow the garlic to rest until it is cool enough to handle. Grasp the garlic head from the root end to squeeze out the cloves from their skins onto a tamis. Use a plastic bench scraper to pass the roasted garlic through the tamis, and you'll be left with roasted garlic purée, a versatile condiment that can be refrigerated for up to a week and used in a variety of vinaigrettes and sauces.

OVEN ROASTING: SHRIMP SCAMPI

GARLIC COMPOUND BUTTER

Mise en Place

Ingredients

100 grams unsalted butter, at room temperature
10 grams roasted garlic purée
(recipe on page 43)
1 gram garlic, peeled, grated on a rasp grater
10 grams Italian parsley, chopped
20 grams fresh lemon juice
10 grams kosher salt

Equipment

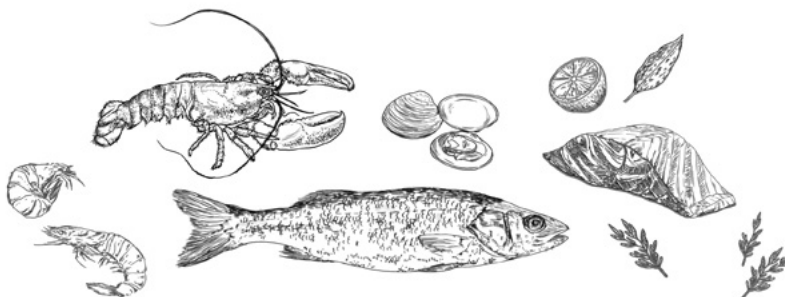
Bowl
Rubber spatula
Plating spoon
Plastic bench scraper
Paring knife
Cutting board
Plastic wrap

METHOD

Place the tempered butter in a bowl and stir with a rubber spatula until smooth. Add the remaining ingredients and stir to combine. Cut a piece of plastic wrap and place it onto the work surface. Spoon the butter onto the plastic wrap in the form of a rough log about 4 inches long, approximately 2 inches from one end of the plastic wrap. Use a plastic bench scraper to help roll up the butter in the plastic to form a compact log about 1 inch in diameter. Pull the ends of the plastic wrap to tighten the log, then twist the ends and tie. Let the butter firm up in the refrigerator so that it is easier to slice off discs in the amount you need. The butter can be stored in the refrigerator for a few days or frozen, well-wrapped, for up to 2 months.

LEARN MORE: SHRIMP VS. PRAWN

Though the terms *shrimp* and *prawn* are often used interchangeably, the two crustaceans are not at all the same. For starters, shrimp are usually smaller than prawns. The two are also anatomically distinct, with different-shaped bodies, pincers, and gills. While both shrimp and prawns can be found wild and farm raised, their natural habitats are different. Shrimp are marine animals, while prawns live in fresh water.



LOBSTER BOIL

Chef Thomas Keller / Chapter Eight



MASTERCLASS

LOBSTER BOIL

“We never make a lobster boil for 2 or 4 people—it’s always going to be for 8, 12, 16, 20, 24. The bigger the pot, the bigger the party. The bigger the party, the more fun we’re having.”

Another of Chef Keller’s fondest culinary memories involves being on the beach in Nantucket with his brother, Joseph, preparing festive lobster boils. One of the beauties of a lobster boil is that it can be almost anything you want, as long as you make it bountiful. An array of seafood. A range of root vegetables and aromatics. Andouille sausage is a traditional addition. And, of course, Old Bay seasoning, a lobster-boil essential. The quantities will vary depending on how many people you plan to serve.

Once you’ve got your ingredients and a big pot to boil them in, the key is timing, staggering the addition of

each ingredient so they are ready at the same time. Always start potatoes, onions, and other root vegetables in cold water so that they cook more evenly. Be careful not to add too many ingredients at once: You want to keep the water simmering.

Prior to serving, ladle cooking liquid into serving bowls for dipping, and lay the bowls out alongside ramekins of clarified butter, nutcrackers, mallets, and plenty of napkins. As you strain the ingredients, Chef Keller reminds you to be careful: You’re dealing with a big pot and lots of boiling water. Once you’re ready, spread your feast out on butcher paper and dig in.

LOBSTER BOIL

LOBSTER BOIL

Mise en Place

Ingredients

Small, similarly sized potatoes
Boiler onions, skins removed, root
cleaned and trimmed
Old Bay seasoning
4 lemons, halved, plus lemon wedges for serving
Bouquet garni (recipe on page 48)
4 heads garlic, cut in half along their equators
Kosher salt
Distilled white vinegar, 30 to 35
grams per liter of water
Andouille sausage, precooked, cut
into 2-inch segments, scored
Live lobsters, 1¼ to 1½ pounds each
Corn on the cob, cut into halves or thirds
Whole, unpeeled shrimp
Clams
Clarified butter, warm (see Chapter 3:
Sauté: Dover Sole With Pommes Château
for the Quick Clarified Butter recipe)
Lemon wedges

Equipment

Large stockpot with a strainer insert
Paring knife
Wire skimmer

METHOD

Add the potatoes and onions to a large stockpot fitted with its insert and filled with cold water. Place the stockpot on a robust burner over high heat.

As the water begins to boil, add the Old Bay seasoning. Squeeze the juice of the lemons into the pot, and then add the lemons themselves. Add the bouquet garni, garlic halves, and a generous amount of salt—enough, Chef Keller says, to make the water as salty as the sea. Cover the pot and bring the water to a boil.

Add the vinegar, which will help the proteins in the lobster and shrimp set and enhance the flavor of the dish. Add the Andouille sausage. Cover the pot and let the liquid simmer until the potatoes and onions are cooked through, or when the vegetables offer no resistance when pierced with a paring knife.

Once the potatoes and onions are cooked, add the lobsters, using the wire skimmer to completely submerge them. Cover the pot and cook for 3 minutes before adding the corn. The lobsters should cook for a total of approximately 10 minutes.

When the cooking liquid returns to a simmer, and 5 to 7 minutes after the lobster was added, add the shrimp and clams, using the wire skimmer to submerge them. Cover the pot and cook for another 3 to 5 minutes, until the shrimp are opaque and firm to the touch and the clams have opened.

Ladle cooking liquid into serving bowls and set them on the table with clarified butter, lemon wedges, mallets, nutcrackers, and lots of napkins.

Lift the strainer from the pot, let the liquid strain out, and spread your feast out on butcher paper.

LOBSTER BOIL

BOUQUET GARNI

Mise en Place

Ingredients

3 leek leaves
5 Italian parsley stems
5 sprigs thyme
2 fresh bay leaves

Equipment

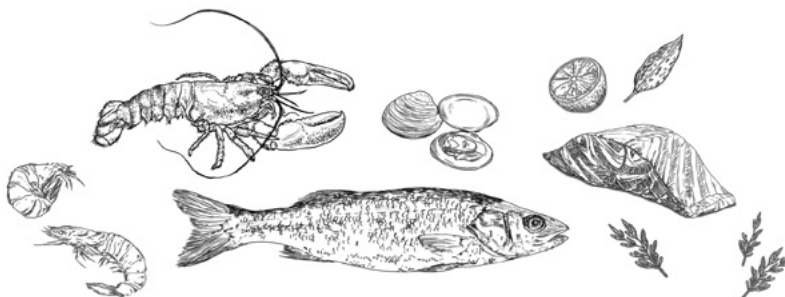
Kitchen scissors or paring knife
Kitchen twine

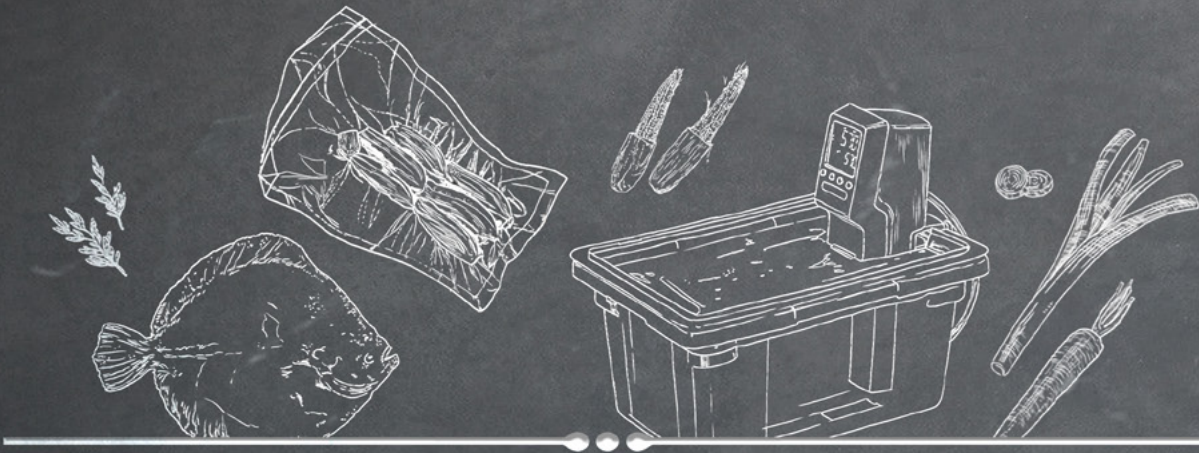
METHOD

Make the bouquet garni by stacking the leek leaves and enveloping them around the Italian parsley stems, thyme sprigs, and bay leaves. Cut a length of kitchen twine using kitchen scissors or a paring knife. Wrap the twine twice around one end of the leek bundle, twice around the other end, and tie a slipknot in the center.

LEARN MORE: OLD BAY SEASONING

Old Bay is somewhat shrouded in mystery. A traditional ingredient in lobster boils, the seasoning was originally developed in the 1930s by a German immigrant in Maryland and is commonly used when cooking crab. We know for certain it contains celery salt, black pepper, crushed red pepper flakes, and paprika. Other spices are also used, but they're not specified on the ingredients list.





SOUS VIDE COOKING: GETTING STARTED

Chef Thomas Keller / Chapter Nine

SOUS VIDE COOKING: GETTING STARTED

“All cooking is about time and temperature. The great thing about sous vide cooking is precision.”

Sous vide—French for “under vacuum”—involves removing all of the air from a plastic pouch using a vacuum sealer machine. This is not a new technique. You have seen it in supermarkets for years, in the form of vacuum-packed coffee, deli meats, turkeys, and boil-in-a-bag vegetables. The use of sous vide in restaurants and by home cooks is more recent.

The term “sous vide cooking” is a misnomer because it refers more to cooking food in a hot water bath kept at a precise temperature by equipment known as an immersion circulator. The role of “sous vide” in “sous vide cooking” is important in that removing all the air from the bag allows the food to cook effectively in the water bath and ensures even cooking by keeping the bag fully submerged in the water.

Immersion circulators were not initially intended for use in the kitchen—they were pioneered for scientific laboratories, where water baths are often used for things like incubating cell cultures. It wasn’t until the 1960s that the sous vide technique found favor in the food world, but even then, the primary purpose was as a means for pasteurization, preservation, and sterilization—it’s been extraordinary in cutting down on food-borne illnesses as well as feeding mass amounts of people at the Olympics or on airlines. In 1971, Dr. Bruno Goussault, widely referred to as the founder of modern sous vide, discovered that cooking vacuum-sealed roast beef in a water bath slowly and

at a slightly reduced temperature resulted in improved tenderness. In 1974, Goussault’s method made its way into the European restaurant scene, with chefs Pierre Troisgros and Georges Pralus utilizing it to prepare foie gras in a new way. Sous vide hopped the pond in the early aughts, and Chef Keller was one of the first American chefs to champion it in his cooking.

For professional and home cooks, sous vide cooking can be a wonderful technique for preparing a variety of meats, poultry, fish, fruits, and vegetables. But don’t think of it as a shortcut. In fact, it calls for longer cooking times at lower temperatures. When executed properly, your food will have amplified flavors and succulent textures.

Chef Keller also offers an overview of the vacuum-packing machines available on the commercial and retail market, from the chamber vacuum sealers used in restaurants to tabletop vacuum sealers for the retail market. Some of these machines can be highly sophisticated, but he notes that for certain preparations, you can achieve excellent results at home using nothing more than heat-tolerant plastic wrap, a digital thermometer, a pot of hot water, and a stove. You can even take some of the guesswork out of it by downloading the PolyScience Sous Vide Toolbox, an app for iOS devices that makes it easier to determine the proper cooking and reheating times for a number of foods.

SOUS VIDE COOKING: GETTING STARTED

PACKING AND COMPRESSION TECHNIQUES

Vacuum-sealing ingredients in specialized plastic bags is the first step in sous vide cooking, but sometimes it's the only step required to completely transform an ingredient. Compressing watermelon, for example, removes all the air from not only the plastic bag but from the fruit itself, which results in a dense texture, intensified color, and concentrated flavor.

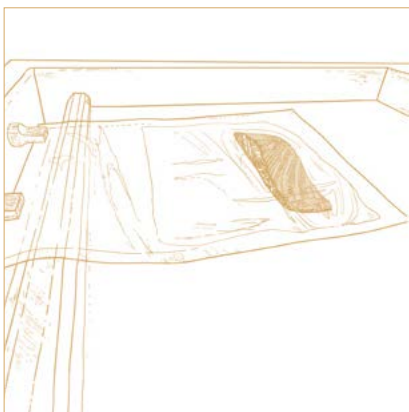
The plastic bags used for vacuum sealing and sous vide cooking should be sturdy (at least 3 mil thick) food-grade bags that can withstand temperatures up to 100°C.

Whether you're working with fruit, vegetables, or a protein, there are guidelines to ensuring successful packing and compression. Prior to packing, it is important to make sure that the food to be packaged is very cold, primarily for food safety considerations and to achieve full compression. Second, your hands need to be clean—Chef Keller recommends working in single-use gloves to avoid contaminating the food being placed in the bag. When assembling multiple

sous vide preparations at one time, it is important to organize yourself so that you begin with ready-to-eat items (e.g., fruit), followed by vegetables and finally proteins to avoid cross contamination.

Sealing the bag is critical: Handle the plastic bags minimally and pay special attention to the area near the opening where the bag will be sealed. Any creasing from handling or folding the bag back will damage the bag, potentially resulting in an incomplete seal. Carefully place food into the bottom of the bag, making sure the food does not touch the bag near its opening—it is important to keep the outside and inside of the bag where it will be sealed dry and clean to ensure a complete seal. If your ingredients are in a bowl, you can also place the open bag on the lip of the bowl, then carefully pour the bowl's contents in.

Chamber vacuum sealers typically come with three filler plates that fit into the vacuum chamber. When packaging items without liquid, make sure there are enough filler plates stacked in the vacuum chamber so that the food items in the bag are level with the height of the seal bar. When packaging items containing



SOLID



LIQUID

SOUS VIDE COOKING: GETTING STARTED

liquids, remove filler plates until the liquid is below the level of the seal bar (use larger bags to prevent leakage during vacuuming). Just before compressing, make sure the part of the bag that's on the seal bar is completely flat and level, without wrinkles or folds.

The amount of food you can place in a bag is dependent on the size of the bag. Since the bags can be expensive, Chef Keller suggests using the bag space efficiently, though consider the following: First, contents of the bag should be in a single layer for even cooking and efficient cooking times. Second, overfilling bags can cause challenges in proper sealing.

Consider that bulkier items may require larger bags to avoid the opening forming pleats at the seal bar.

LEARN MORE

Familiarize yourself with the vacuum sealers and immersion circulators available, and settle on the one that best suits your needs. Non-chambered vacuum sealers are generally inadequate for sous vide cooking.

Experiment with the vacuum sealing and sous vide cooking preparations covered in this section, adjusting cooking times and temperatures while noting the different results they yield.

SOUS VIDE COOKING: GETTING STARTED



COMPRESSED WATERMELON

Mise en Place

Ingredients

Watermelon, cut into rectangles

Equipment

Vacuum sealer bag

Chamber vacuum sealer

Single-use gloves

Kitchen scissors

Chef's knife

Cutting board

METHOD

Place a piece of watermelon inside a vacuum sealer bag and vacuum seal. Remove the watermelon from the bag and cut into desired size.

SOUS VIDE COOKING: CARROTS, ASPARAGUS, AND FENNEL

Chef Thomas Keller / Chapter Ten



MASTERCLASS

SOUS VIDE COOKING: CARROTS, ASPARAGUS, AND FENNEL

Chef Keller found that 85°C is the perfect temperature for cooking all vegetables sous vide. Specific vegetables will vary in cooking times based on their density, porousness, and size, but the 85°C mark is optimal for breaking down the fibers in plants. In fact, if the water bath is less than 83°C, you could cook vegetables “until doomsday,” as Chef Keller jokes, and they would remain firm.

It’s important to understand the density of specific vegetables before cooking them sous vide: carrots and fennel bulb are both dense vegetables, but the fennel bulb has space between its leaves; asparagus is porous and less dense. All of these factors, along with the size of the vegetable or the size to which they are cut, play into how long it takes each vegetable to cook.

Due to the nature of each vegetable and their size, the times in the recipes are general guidelines for when to begin checking for doneness. To test whether vegetables are tender and done cooking, take the bag out of the water bath and lightly pinch the vegetable, at its thickest or densest part, through the bag to feel for resistance. The vegetables are done cooking when you encounter mild resistance. If the vegetables are still hard, return the bag into the water bath and check about every 10 minutes, until the vegetables are tender.

For fibrous or root vegetables over ½ inch in thickness, begin testing for doneness after 35 minutes. For more delicate vegetables, due to variations in vegetable composition and density, it will take some experimentation on your part.

For general sous vide cooking of vegetables, season with salt and a liquid or fat of your choice (e.g., extra virgin olive oil or butter). Highly acidic liquids added to your vegetables in the bag may inhibit them from becoming tender.

When using aromatics in sous vide cooking, remember that less is more: The aromatics intensify when placed in a closed environment, so use a little less salt or add only one sprig of thyme when you’d normally add three or four. Also, the aromatics should not directly touch the ingredient to ensure even seasoning.

When it comes to food safety, vegetables being cooked sous vide should be peeled or scrubbed well. Any portions of vegetables that may harbor soil (e.g., the roots of a head of garlic or an onion) should be removed; they pose a greater risk of botulism and listeria, both of which are very dangerous in an anaerobic environment such as sous vide.

SOUS VIDE COOKING: CARROTS, ASPARAGUS, AND FENNEL

GLAZED CARROTS

Mise en Place

Ingredients

500 grams sweet or fresh-garden carrots,
peeled, oblique cut to ½-inch pieces (Chef
Keller demonstrates how to make an oblique
cut in chapter 8 of his first MasterClass)
15 grams granulated sugar
5 grams kosher salt
100 grams water
50 grams unsalted butter, cut into ½-inch cubes
Maldon sea salt

Equipment

Plastic container for water bath
Immersion circulator
Mixing bowl
Vacuum sealer bag
Chamber vacuum sealer
Single-use gloves
Aluminum foil
Kitchen scissors
Large sauteuse
Spoon

METHOD

Prepare a water bath with an immersion circulator set to 85°C.

Place all of the ingredients except for the Maldon sea salt in a mixing bowl, and toss well to coat the carrots. Transfer the contents of the bowl into a vacuum sealer bag, arranging the carrots in a single layer but keeping the top 3 inches near the bag's opening clear for sealing. Vacuum seal the bag and place it into the 85°C water bath. Cover the water bath container with aluminum foil to retain heat and minimize evaporation.

Cook the carrots for 35 minutes, or until tender.

Cut the bag open and pour the contents into a sauteuse set over medium-high heat. Swirl the pan to glaze the carrots. Cook until the liquid has mostly evaporated and the carrots are glazed. Plate the carrots and finish with Maldon sea salt.

SOUS VIDE COOKING: CARROTS, ASPARAGUS, AND FENNEL

WHITE ASPARAGUS

Mise en Place

Ingredients

500 grams white asparagus, about ½-inch diameter, trimmed and peeled
6 grams granulated sugar
6 grams kosher salt
250 grams cold milk
30 grams unsalted butter, cut into ½-inch cubes
Maldon sea salt

Equipment

Plastic container for water bath
Immersion circulator
Single-use gloves
Vacuum sealer bag
Chamber vacuum sealer
Aluminum foil
Kitchen scissors
Cooling rack set over a sheet pan
Spoon

METHOD

Prepare a water bath with an immersion circulator set to 85°C.

Place the asparagus spears in a single layer into a vacuum sealer bag. Add the sugar, salt, and milk. Vacuum seal the bag and place it into the 85°C water bath. Cover the water bath container with aluminum foil to retain heat and minimize evaporation.

Cook the asparagus for 20 minutes, or until tender.

Cut the bag open and slide the asparagus onto the cooling rack set over a sheet pan to drain. Arrange the asparagus spears on a serving plate. Top with the butter and finish with Maldon sea salt.

TO TRIM AND PEEL ASPARAGUS

Equipment

Cutting board
Chef's knife
Loaf pan
Peeler

METHOD

Snap off the fibrous bottom sections of asparagus spears. (To do this, gently hold the center of the stem with one hand and the base with the other, then snap.) The bottoms should break off cleanly where they meet the tender part of the spear.

Use a chef's knife to trim and straighten the ends of the asparagus.

For each spear: Position the spear on the surface of an overturned loaf pan to elevate the asparagus off the table while peeling. Peel the spear starting 1½ inches below the tip.

SOUS VIDE COOKING: CARROTS, ASPARAGUS, AND FENNEL

CARAMELIZED FENNEL BULBS

Mise en Place

Ingredients

1 large fennel bulb, approximately
300 grams after trimming
30 grams extra virgin olive oil
3 grams kosher salt
1 clove garlic, peeled, root removed
1 sprig thyme
Canola oil
Extra virgin olive oil
Maldon sea salt

Equipment

Plastic container for water bath
Immersion circulator
Mixing bowl
Single-use gloves
Vacuum sealer bag
Chamber vacuum sealer
Aluminum foil
Ice bath
Kitchen scissors
Cooling rack set over a sheet pan
Nonstick sauté pan
Plate lined with paper towels
Spoon

METHOD

Prepare a water bath with an immersion circulator set to 85°C.

Trim the root end and stalks of the fennel bulb, then remove the outer layers of the bulb. Cut the bulb into 6 $\frac{3}{4}$ -inch wedges. Place the pieces in a mixing bowl and toss them with olive oil and a pinch of salt. Transfer the contents into a vacuum sealer bag, arrange the wedges in a single layer, and add the garlic and thyme. Vacuum seal the bag and place it into the 85°C water bath. Cover the water bath container with aluminum foil to retain heat and minimize evaporation.

Cook the fennel for 40 minutes, or until tender.

Immediately plunge the bag into an ice bath to chill completely. Open the bag and transfer the fennel onto a cooling rack set over a sheet pan to drain. Discard the thyme and garlic.

Heat a nonstick sauté pan over medium-high heat. Pour in enough canola oil to thinly coat the bottom of the pan. When the oil is shimmering, place the fennel wedges into the pan. Caramelize the fennel until golden brown, about 3 minutes. Flip the wedges to caramelize the opposite side, another 3 minutes. Transfer the fennel to a plate lined with paper towels to drain. Plate the fennel, drizzle with extra virgin olive oil, and finish with Maldon sea salt.

*Three basic principles govern sous vide cooking: **pressure, temperature, and time.***

Sous vide cooking requires patience, practice, and a respect for the ingredients and equipment used. Refer to the following excerpt from Chef Keller's book *Under Pressure: Cooking Sous Vide* to acquire a better understanding of proper execution and safety procedures.

PRESSURE

Pressure is determined by the power of the vacuum packer. The vacuum packer extracts air from the sous vide bag, squeezing the bag tightly against the food, sometimes even compressing the food. The questions to ask in order to determine the desired pressure are these: Do you want the item sealed very, very tightly or even compressed? Or is the item so delicate that it will be crushed by too much pressure? Is there a bone that might puncture the bag if too much pressure is used? Chamber vacuum packers typically have one gauge for the amount of pressure and a second gauge for the duration of packing. Because vacuum-packing machines vary, general settings for packing are recommended (low, medium, and high) in the recipes here. Many factors determine the appropriate pressure; sealing time is determined by the thickness of the bag. The gauge on the packing bar records how hot it gets. Thicker bags need more heat to fuse completely.

For hard items, such as carrots, we want high pressure so that oxygen is removed and the plastic is as tight against the vegetable as possible, resulting in the maximum surface area coming into contact with the water's heat. The need for maximum surface area is true for meat as well, but sealing pressure may vary depending on how delicate the cut is. For items we want to compress, such as porous fruits and vegetables, we also use high pressure. We compress melon to transform its texture and intensify its color. For some dishes, we compress two different proteins together (ham and mackerel, for instance; or chicken thigh and a farce, or stuffing; or layers of rabbit and bacon), not to change their shape and texture but to ensure that they bond as tightly as possible. For items such as a delicate piece of fish, we use less pressure so that we don't bruise them; if you're cooking a medallion of cod, you don't want to flatten it out.

It's also essential to keep in mind that the food must be cold when it's packed and sealed. This is far more important than most people realize. In fact, Bruno Goussault says that when he trains chefs in sous vide technique, the number one error they make is not chilling the food properly before it's sealed. The problem is related to the fact that in very low-pressure situations, water vaporizes at a lower temperature. To demonstrate, Goussault will put one pan of cold water and another one of warm water in a vacuum chamber. When the chamber is locked and the vacuum turned on, the warm water will begin to boil vigorously almost immediately, as the water vaporizes. When warm food is put in a vacuum, the same vaporization will happen, drying it out and affecting its texture.

This is why, in addition to safety issues, when one of these recipes calls for a piece of meat to be seared before it is cooked sous vide, it must be thoroughly chilled for several hours, or overnight, before sealing it. If you don't have the refrigerator space to allow the meat to cool uncovered, put the meat in a Ziploc bag and submerge it in an ice bath until it's thoroughly chilled before packing—below 6°C (42.8°F).

TEMPERATURE

The temperatures used in sous vide cooking are always below that of simmering water, which is about 87° to 93°C (190° to 200°F). The highest temperature we use, almost without exception, is 85°C (185°F), and this is exclusively for vegetables. Plant cell walls are weakened at this temperature, and so the vegetable becomes tender.

Meat and fish cooking temperatures are more varied. Fish proteins generally are delicate, and they denature and coagulate—that is, cook—at about 6.6°C (44°F) lower than meat proteins do. For meat, the cells begin to contract and thus squeeze out water and become tough at about 60°C (140°F). At about 70°C (160°F), the meat will have squeezed out much of its moisture, but the cells are easier to pull apart and the collagen

will have begun to melt into gelatin (resulting in the very tender meat we expect from a braise).

Cooking a braise cut sous vide at 65.5°C (150°F) for a longer time, however, serves to break down the collagen without squeezing out all the juices, resulting in meat that is as tender as that from a traditional braise but more flavorful.

For tender breasts of poularde, we use 62°C (143.6°F), but we cook the thighs at 64°C (147.2°F). We cook delicate fish, such as St. Peter's (John Dory), at 60°C (140°F).

These temperatures are basic guidelines, not hard-and-fast rules. They may vary slightly depending on how the food is to be treated before and after it goes into the bag. A chicken breast that will be seared after it's removed from the bag may be cooked at a lower temperature than a breast that will simply be cooked sous vide, then sliced and served.

TIME

In conventional cooking, timing can be thought of in terms not of how long to cook something, but of how long before you must stop its cooking. And this is tricky in conventional cooking, because you're usually using temperatures far higher than the one you want the food to reach. If you're sautéing a medallion of beef, for example, you may want the internal temperature to reach only 54.4°C (130°F), but you're cooking it at about 200°C (400°F). That means that once the beef is at just the right temperature, the window of time you have to get it out of the heat is very small. Further complicating matters is the fact that the temperature of the food will rise at least a few degrees after it's out of the heat, an effect called carryover cooking.

In sous vide cooking, however, once the food reaches the desired internal temperature, it stays there, even

when left in the water. And there is no carryover cooking when the food is removed from the water.

This does not mean, however, that the window of time for perfectly cooked food is unlimited. If the meat spends too long in the heat, the color won't change, but the texture and feel will—so it may look beautifully rare but the taste and texture will not be what you expect. It is meat that is rare yet overcooked.

FOUR BASIC TECHNIQUES

We use four specific sous vide techniques: storage, compression, marination, and cooking.

STORAGE

Food vacuum-packed for storage will last considerably longer in the refrigerator than food that's simply wrapped in plastic. It will also hold up better in the freezer. The main reason is the removal of oxygen from the food's environment. Lack of oxygen greatly reduces the activity of many bacteria that cause spoilage. In the freezer, the vacuum-sealing keeps the food from losing moisture to the air, preventing freezer burn. And in some cases, perhaps most notably with foie gras, artichokes, and fruit like apples and pears, vacuum-sealing can prevent discoloration from oxidation. Cooking and then storing food sous vide has the additional benefit that there's no chance for recontamination from airborne bacteria, a cutting board, or a cook's hands, and that will further delay spoilage. Storing food this way is also neater and cleaner, and it helps to maintain the shape of the food.

COMPRESSION

Compression is our newest sous vide technique, discovered (if you will) by Mark Hopper, chef de cuisine at Bouchon in Las Vegas. We use it almost exclusively to change the texture of a food, specifically porous fruits such as pineapple and melon. Compression, which requires a great deal of pressure, can transform a crisp, light bite of fruit into a dense,

almost meaty one. We also compress cucumbers, celery, and tomatoes.

A secondary effect of compression is what might be called "setting"—in other words, using the pressure to bring a food to a specific shape and maintain it, so that when it's briefly cooked, the food sets in that shape but remains raw inside. It can then be finished using another cooking method without losing its shape. We set the shapes of different fish and meat this way—a loin of rabbit wrapped in bacon, a piece of delicate St. Peter's fish (John Dory), a stuffed squab breast.

MARINATION

We marinate food sous vide because it is neat, convenient, and efficient. Vacuum-sealing itself doesn't speed up marinating, but when the bag is opened, releasing the vacuum, some marinade can penetrate the food, enhancing its effects. From a restaurant standpoint, the economy of space afforded by marinating food in sealed plastic bags, rather than in plastic containers, is especially useful. The sealed package prevents the possibility of the marinade accidentally spilling, and it also makes it easy to redistribute the marinade ingredients around the food.

COOKING

The most valuable and versatile sous vide technique is, of course, cooking. The three main types of sous vide cooking are short-time cooking (*à la minute*), long-time cooking (up to several days), and fruit and vegetable cooking. Food that's naturally tender—most fish, for example—requires a relatively short time in the water bath, as little as 10 minutes or so, and is typically served immediately. Meats that are tough require a long time to break down the connective tissues and become tender. Some meats that are braised may fall between short- and long-time cooking, in that they are cooked through but do not become meltingly tender. Vegetables generally require between 30 and 90 minutes. They are almost always cooked at 85°C (185°F).

SAFETY ISSUES REGARDING THE THREE BASIC SOUS VIDE STEPS

Certain basic safety rules apply to each step of sous vide.

SEALING

1. Chill the food, or sear the food if that is called for and then chill it immediately and thoroughly.
2. Seal the chilled food and either cook it immediately or store it at 3.3°C (38°F) or below.

COOKING

1. Cook the food, remove it from the bag, and serve it.
2. Cook the food, leave it in the bag, and chill it in an ice bath to 1°C (34°F), then refrigerate or freeze.

STORING

1. Store the food (chilled first if it has been cooked) in the refrigerator at or below about 3.3°C (38°F) or freeze it.
2. Defrost food in the refrigerator before using.

SAFETY

The safety issues of concern in cooking sous vide are different from those cooks are used to addressing in more conventional forms of cooking. They're not complicated, but they're very important to understand and respect; if we ignore them, the potential pathogens can be considerably more dangerous than in other

situations because of their opportunity to multiply to dangerous levels.

The bacteria we're mainly concerned with in sous vide cooking are Salmonella, Clostridium botulinum, E. coli O157:H7, and Listeria. All of these bacteria can live in the anaerobic environment of a vacuum-packed bag, and if they do exist in the bag and it is put in warm water, they can multiply to dangerous levels. The longer bacteria are in what is referred to as the "danger zone"—temperatures between 4.4° and 60°C (40° and 140°F)—the faster they multiply and the more dangerous they become. Bacteria grow with exceptional speed at temperatures between about 40° and 50°C (100° and 120°F), doubling in number every 20 to 30 minutes.

In order to prevent our bagged food from turning into bacteria bombs, we need to understand how bacteria work and how to treat the food in ways that limit their growth. As a general rule, treat everything you seal in a bag as though it carries harmful bacteria.

Most bacteria are found on the exterior of food. Some notable exceptions include ground meats (such as hamburger, in which surface bacteria is spread throughout the meat) and eggs (Salmonella from the infected ovaries of chickens can contaminate the interior of eggs). Also, if contaminated food is cut into, bacteria can be brought inside the food. Generally, we restrict bacterial growth by keeping the food either cold or hot and by limiting the time it spends in the warm-temperature danger zone. Because most bacteria exist only on the exterior of the food, only the exterior, not the center of the food, must reach temperatures at which the bacteria are killed. But keep in mind that if food that has only a harmless number of bacteria on it is left out at room temperature, those bacteria can multiply rapidly to harmful levels.

Moreover, cooking food to 60° to 82.2°C (140° to 180°F) doesn't mean you've killed all the bacteria. Thousands to millions of bacteria can exist on any given piece of food, and generally accepted cooking times and temperatures kill most but not necessarily

all bacteria—until you get up to sterilization temperatures and times. So all safety measures are based on statistics and odds and cannot be ironclad guarantees. A special note about meats: Always buy the freshest meat possible, and cook it as soon after buying it as you can. All meat is, by definition, contaminated, and the longer it sits before being sealed in a sous vide bag and cooked, the more bacteria can grow—and the more bacteria you'll end up with if you cook and hold it at danger-zone temperatures.

Salmonella bacteria, of which there are more than 2,000 kinds, cause more illnesses than any other food-borne pathogen. Salmonella poisoning sickens 1.4 million people each year, according to the Centers for Disease Control, and kills 600 of those who are particularly vulnerable to illness (the very old, the very young, and those with compromised immune systems). Fortunately, most people recover without treatment. Salmonella bacteria live in the intestines of animals and humans and can contaminate any raw food. They are a serious problem in the chicken industry, and raw chicken and eggs are among the foods most commonly carrying the bacteria. Salmonella are the most heat-resistant bacteria, so measures to protect food from them will likely take care of most other pathogens as well.

Clostridium botulinum is different from the other pathogens we worry about and potentially the most dangerous. The bacterium produces spores that can lie dormant in soil, where *Clostridium* is commonly found. The spores, which are extremely heat-resistant, grow in anaerobic or low-oxygen environments (such as a can or a jar, a dry-cured sausage, even a baked potato wrapped in foil and allowed to cool—or a vacuum-packed bag). The bacteria produce a neurotoxin that is extremely dangerous but that is killed at high temperatures (80°C [176°F]). About 100 people a year in this country are made sick by botulism, mostly from home-canned foods. The main reason the dangers posed by botulism are different from those of other bacteria, besides the potency of the botulism toxin, is the fact that, with the exception of canning,

most cooking doesn't include anaerobic environments. But because sous vide techniques are defined by an anaerobic environment, botulism is of particular concern when using sous vide.

E. coli O157:H7 is a serious bacterium that can be found on meats and vegetables and is responsible for about sixty deaths a year. Like *Salmonella*, it lives in the intestines of animals and people. It is most prevalent in ground meat and green leafy vegetables.

Listeria, a bacterium present in soil and water, is particularly harmful to pregnant women. Known to grow rapidly in floor drains, it is a special concern at food processing plants, and so products such as hot dogs and other processed meats are often the cause of listeriosis. Unlike the other bacteria discussed here, *Listeria* can grow at near-freezing temperatures.

But by keeping food cold and chilling cooked food as quickly as possible, you can drastically reduce its rate of growth. This is why, when cooking sous vide, cooked food that will be refrigerated in the bag for later use must be chilled thoroughly and completely in an ice bath.

The maximum time food sealed sous vide can safely remain in the bag in danger-zone temperatures (this includes cooking time if cooking below 60°C [140°F]) is 4 hours. But the sooner cooked food is out of the danger zone (meaning the faster it's chilled), the better, from both a safety and a spoilage standpoint. This safety window does give you plenty of leeway. You can safely cook at danger-zone temperatures, and you can leave food out to rest for a half hour or so after cooking so that it can reabsorb the cooking juices—as long as you then chill it completely as quickly as possible in an ice bath. If any vacuum-packed protein, either cooked or raw, has been in the danger zone for 4 hours or longer, we recommend that it be discarded. To reiterate: Food to be cooked sous vide must be cold when it's sealed and then either cooked immediately or stored in the refrigerator until ready to cook. After food is cooked sous vide, it must either be served

immediately or quickly and thoroughly chilled in an ice bath within 4 hours of entering danger-zone temperatures, then held very cold.

At Per Se, sous-chef Rory Herrmann developed a protocol for all of our restaurants, called a HAACP plan, that was accepted by the New York City Health Department for ensuring the safety of food cooked and stored sous vide. While this protocol addresses virtually every ingredient and method the restaurants use, identifying risks and ways to control the risk, the common denominators are the ones just mentioned. Again, all food must be kept refrigerated at 3°C (38°F) or below until it's sealed. Then it should be cooked and served or chilled to a temperature of 1°C (34°F) or below in an ice bath and refrigerated.

What constitutes an ice bath? A minimum of 50 percent ice, but more ice than that is better. An ice bath is not a big pot of water with some ice floating in it—an ice bath should appear to be mostly ice. If there's any doubt, take the temperature of the ice bath to make sure it's at 1°C (34°F). And it's a good idea to agitate the bag every so often to prevent a “dead zone” of warm water from surrounding it. Add more ice as soon as the heat of the bag has melted some of the ice. Adding salt to the ice will further reduce the temperature.

After food has been cooked sous vide and chilled, how long will it keep? Even when the food is chilled

and in the cooler, some bacteria, such as *Listeria*, can continue to grow.

Clostridium spores can germinate at 5°C (41°F). Complicating the situation is the fact that coolers vary widely in the temperature they can hold, and within any cooler, there are cold spots and warm spots. We recommend that you check your cooler frequently to make sure at least part of it maintains a temperature of 3.3°C (38°F) or lower, and always keep food that has been sealed sous vide in the coldest part of the cooler. If you're concerned about your cooler's temperatures, you may want to store sealed food packed in ice.

As a general rule, if you're not going to use the food within 3 days, freeze it (still in the plastic).

There may be times when you have reason to be concerned about food you've sealed sous vide—say you've accidentally left a package out, or your power went off, so the food has been in the bag at room temperature for several hours. In these cases, we recommend that you discard the food.

Safety considerations are built into all the recipes here, so be sure to follow the recipes closely with regard to heating and chilling food that is sealed sous vide. Generally, though, food pathogens are something to be aware of and to understand, not to fear. Know where they may be present, know the conditions in which they flourish, and prevent those conditions.

SOUS VIDE COOKING: TURBOT

Chef Thomas Keller / Chapter Eleven



MASTERCLASS

SOUS VIDE COOKING: TURBOT

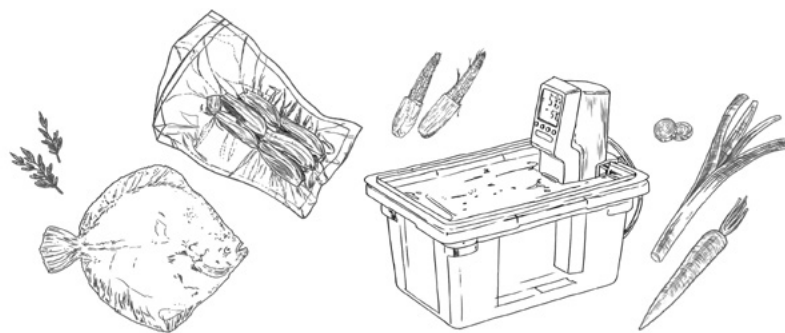
“Turbot is a very highly prized fish.”

Traditionally caught in northern seas, turbot is a highly prized flatfish with firm, white flesh and a delicate and mild flavor. It lends itself well to creamy French sauces, like this preparation of petits pois à la française, or peas and pearl onions cooked in a sauce suprême with bacon. (Chef Keller teaches you how to make sauce suprême in chapter 20 of his second MasterClass.) If you cannot source turbot, substitutions include halibut, fluke, and sole (all varieties).

Most any fish can be cooked sous vide and served according to your personal tastes. It's the thickness of the fish, not its length, that determines how long it will take to cook. Chef Keller recommends selecting

fish under 1½ inches thick for sous vide cooking. Also, cook fish sous vide from cold (i.e., do not temper the fish).

General cooking temperatures for most fish that are cooked to medium rare (e.g., fatty fish) range from 53 to 57°C, with an approximate cooking time of 12 to 15 minutes for every ½ inch of thickness. For more flaky fish or for fish that needs to be cooked more well done, cook at 61°C. It will take about 10 minutes for every ½ inch of thickness. To truly determine whether the fish is cooked perfectly to your liking, it will require some experimentation on your part to find the right time and temperature.



SOUS VIDE COOKING: TURBOT

TURBOT SOUS VIDE WITH PETITS POIS À LA FRANÇAISE

Mise en Place

Ingredients

1 portion turbot fillet, about 110 grams and ½ inch thick
Kosher salt
1 sprig tarragon
15 grams unsalted butter, cut into ½-inch cubes
Petits pois à la française (recipe on page 68)
Sauce suprême (recipe on page 69)
3 sprigs chervil
Maldon sea salt

Equipment

Plastic container for water bath
Immersion circulator
Ice
Single-use gloves
Vacuum sealer bag
Chamber vacuum sealer
Aluminum foil
Small saucepan
Small whisk
Kitchen scissors
Cooling rack set over a sheet pan
Small offset spatula
Spoons

METHOD

Prepare the pearl onions, cooked sous vide (recipe on page 71), for the petits pois à la française (recipe on page 68). Then set the immersion circulator to 57°C. Lower the temperature of the water bath by removing some of the hot water and adding ice.

Season both sides of the turbot with salt. Vacuum seal the turbot, tarragon (not touching the turbot), and butter in a vacuum sealer bag and place into the water bath when it reaches 57°C. Cover the water bath container with aluminum foil for heat retention and minimizing evaporation.

Cook the turbot for 6 minutes. While the turbot is cooking, prepare the petits pois à la française.

Warm the sauce suprême in a small saucepan over medium-low heat, gently whisking occasionally to heat evenly.

Cut the vacuum sealer bag open and slide the turbot onto the cooling rack set over a sheet pan to drain. Use a small offset spatula to gently scrape the top and sides of the turbot fillet to remove any excess moisture. Spoon the warmed sauce suprême over the turbot in an even coat.

Spoon the petits pois into a serving dish. Using an offset spatula, gently transfer the glazed turbot onto the petits pois. Garnish with a few sprigs of chervil and a sprinkle of Maldon sea salt.

SOUS VIDE COOKING: TURBOT

PETITS POIS À LA FRANÇAISE

Mise en Place

Ingredients

125 grams sauce suprême (recipe on page 69)
125 grams English peas, big-pot blanched
(Chef Keller demonstrates big-pot blanching
in chapter 7 of his first MasterClass)
6 pearl onions, cooked sous vide
(recipe on page 71)
55 grams applewood smoked
bacon, diced and blanched
35 grams romaine lettuce, chiffonade (finely cut)
Kosher salt
5 grams unsalted butter

Equipment

Medium saucepan
Small whisk
Spoon

METHOD

Warm sauce suprême in a medium saucepan set over medium heat, gently whisking occasionally for even heating. When the sauce reaches a small simmer, add the peas, pearl onions, and bacon. Use a spoon to gently stir and coat the vegetables and bacon in the sauce, until everything is heated through. Fold in the romaine lettuce, season with salt, and add the butter, stirring until the butter is melted and the romaine has just wilted. Set aside and keep warm.

SOUS VIDE COOKING: TURBOT

SAUCE SUPRÊME

Mise en Place

Ingredients

Sauce velouté (recipe on page 70)

Heavy cream

Crème fraîche

Kosher salt

Equipment

Saucepot

Whisk

Spoon

METHOD

Warm the velouté in a saucepot set over medium heat, whisking occasionally for even heating. When the sauce reaches a small simmer, lower the heat. Whisk in the cream and crème fraîche. Season with salt.

SOUS VIDE COOKING: TURBOT

SAUCE VELOUTÉ

Mise en Place

Ingredients

Beurre manié (recipe below)

Light chicken stock

(Chef Keller demonstrates how to make light chicken stock in chapter 17 of his second MasterClass)

Kosher salt

Fresh grated nutmeg (optional)

FRESH GROUND WHITE PEPPER (OPTIONAL)

Equipment

Mixing bowl

Rubber spatula

Saucepot

Whisk

Ladle

Spoon

FOR THE BEURRE MANIÉ

100 grams unsalted butter, room temperature

100 grams all-purpose flour

METHOD

MAKE THE BEURRE MANIÉ

Mix together equal parts butter and flour until thoroughly incorporated and smooth. Set aside.

MAKE THE VELOUTÉ

Bring the stock to a simmer over medium-high heat. Lower the heat to medium and whisk in enough of the beurre manié (about half) to thicken the sauce. Be sure to keep whisking as you incorporate the thickener into the stock to help achieve a velvety texture. As the mixture begins to combine with the stock, the color will darken slightly. Offset the pot from the flame to allow any impurities from the flour to be driven to one side. Using a ladle, skim off any impurities that rise to the top. (Chef Keller demonstrates how to skim impurities when making a stock in his second MasterClass. See Chapter 17: Light Chicken Stock.) Use a spoon to check the texture of the velouté as it comes together—the desired consistency is reached when a clean line is left behind when you run your finger through the sauce on the back of a spoon. Continue whisking while seasoning to taste.

SOUS VIDE COOKING: TURBOT

PEARL ONIONS COOKED SOUS VIDE

Mise en Place

Ingredients

6 pearl onions, peeled, root
cleaned and trimmed
Extra virgin olive oil
Kosher salt
Granulated sugar

Equipment

Plastic container for water bath
Immersion circulator
Paring knife
Mixing bowl
Vacuum sealer bag
Chamber vacuum sealer
Aluminum foil
Ice bath

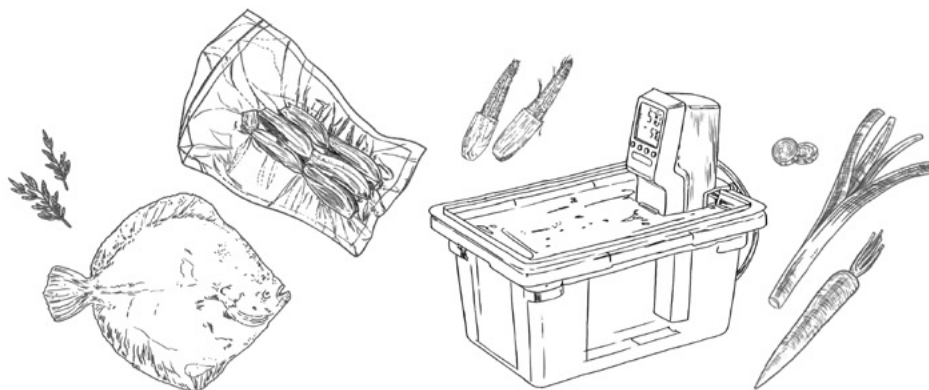
METHOD

Prepare a water bath with an immersion circulator set to 85°C.

Use a paring knife to cut a 1/8-inch-deep X at the root end of the onions. Place the onions in a mixing bowl, drizzle with olive oil and season with a pinch each of salt and sugar. Toss well to coat the onions. Transfer the contents of the bowl into a vacuum sealer bag, arranging the onions in a single layer. Vacuum seal the bag and place it into the 85°C water bath. Cover the water bath with aluminum foil to retain heat and minimize evaporation.

Cook the pearl onions for 30 minutes, or until tender.

Immediately plunge the bag into an ice bath to chill completely. Refrigerate until ready to use or for up to 3 days.



SIMPLIFIED SOUS VIDE: SALMON

Chef Thomas Keller / Chapter Twelve



MASTERCLASS

SIMPLIFIED SOUS VIDE: SALMON

When Chef Keller and his culinary team at The French Laundry first started cooking sous vide (or “slow cooking,” as they used to refer to it), they didn’t have any of the equipment they use in the restaurant today. Chef Keller recalls filling a cocotte, or a Dutch oven, with a chicken breast and milk and placing the lidded cocotte into the kitchen’s plate warmer for 45 minutes. By the time he was ready to serve it, the chicken was poached perfectly in the milk.

The method for milk-poached chicken breast then evolved into wrapping and compressing salmon or duck breast in plastic wrap. Here, Chef Keller

demonstrates this technique and how to cook sous vide using only a pot of water and a thermometer.

It’s not as precise as an immersion circulator, but it achieves a similar result. He shows that while professional equipment is undoubtedly useful, you don’t need a chamber vacuum sealer to cook sous vide at home for certain applications.

As Chef Keller became more knowledgeable about sous vide techniques through the teachings of sous vide pioneer Bruno Goussault, his team graduated to the equipment now used in Chef Keller’s restaurants.

SIMPLIFIED SOUS VIDE: SALMON

SLOW-COOKED KING SALMON WITH WHITE ASPARAGUS COOKED SOUS VIDE AND SAUCE BÉARNAISE

Mise en Place

Ingredients

1 portion Ōra King salmon from the top loin, skinless, approximately 175 grams
Kosher salt
Béarnaise sauce (recipe on page 76)
7 white asparagus spears, cooked sous vide
30 grams unsalted butter
½ lemon
Maldon sea salt

Equipment

8-quart stockpot
Instant-read digital thermometer
Ice
Plastic wrap
Kitchen scissors
Cake tester or paring knife
Slotted spoon
Sheet pan lined with kitchen towel
Spoon

METHOD

Fill an 8-quart stockpot with water and attach a thermometer to the side of the pot to monitor the water temperature. Heat the water to 61°C and adjust the heat level on the stove so that the temperature can be easily maintained. Have a small bowl of ice on hand to adjust the temperature of the water if it gets too hot.

Lay a large piece of plastic wrap smoothly on a work surface. Fold the top ½ inch of the plastic wrap over on itself, creating a thin lip at the top of the plastic wrap.

Season the salmon fillet with salt. Place the fillet near the bottom of the plastic wrap, leaving enough room at the bottom to be able to fold the plastic over the fish and still have 2 inches extra. Fold the plastic wrap over the fish, and gently pull the fillet toward your body to “compress” it. Begin wrapping the fish in the plastic. With each roll, use one hand to stretch the film away from you and the other hand to pull the fish back toward you. This will compress the fillet into a tight bundle.

Once the fish is fully rolled, pull and stretch the loose ends of the plastic wrap as if it were a rubber band. Twist both ends of the plastic wrap tightly, then tie each end into a knot. Push each knot toward the fish as you pull the excess plastic away, tightening the compression. Trim the excess film off both ends.

Make sure there is no air in the rolled fish by piercing any air pockets with a cake tester or the tip of a paring knife.

Make the béarnaise sauce, but do not add the minced tarragon yet.

Confirm the water temperature is at 61°C. Place the salmon in the prepared water bath. The salmon should drop to the bottom of the pot. Cook the fish at 61°C for 17 to 18 minutes for medium rare to medium doneness at 1½-inch diameter. Make sure to continually monitor the water temperature and adjust as needed.

SIMPLIFIED SOUS VIDE: SALMON

Meanwhile, glaze the asparagus with a little bit of water and butter. Season with salt. (Chef Keller demonstrates the glazing technique in chapter 8 of his first MasterClass.)

Use a slotted spoon to remove the salmon from the water bath. Cut the knots off the ends of the salmon. Unwrap the plastic wrap starting at the lip you folded at the top of the film, and place the salmon on a sheet pan lined with a kitchen towel. If the salmon isn't hot enough for your preference, flash it in a 350°F oven for 3 minutes.

Finish with a squeeze of lemon juice and a sprinkle of Maldon sea salt. Transfer to a serving plate.

Add the minced tarragon to the béarnaise sauce and stir to incorporate. Roll the asparagus in the pan, coating it in the glaze. Place the asparagus next to the fish on the serving plate. Spoon the béarnaise sauce over the salmon in an even layer.

SIMPLIFIED SOUS VIDE: SALMON

BÉARNAISE SAUCE

Mise en Place

Ingredients

85 grams egg yolks (approximately 4 each)
25 grams heavy cream
85 grams béarnaise reduction (recipe below)
350 grams clarified butter, warm (see Chapter 3: Sauté: Dover Sole With Pommes Château for the Quick Clarified Butter recipe)
5 grams lemon juice
4 grams tarragon, minced
10 grams shallot, finely minced
5 grams kosher salt

Equipment

2 quart saucier
Whisk

METHOD

Place the egg yolks, cream, and béarnaise reduction in a saucier and whisk over low heat until the egg yolks have expanded and reached a ribbon consistency. Constantly whisk and adjust the heat as needed in order to not scramble the egg yolks. Very slowly drizzle in the clarified butter while continuously whisking, making sure that an emulsion is forming. Once all the clarified butter is emulsified, whisk in the lemon juice, shallot, and salt. Set the sauce aside in a warm place. Remember from Chef Keller's first MasterClass that this sauce is an emulsion, which will break if it is kept too hot or reheated.

BÉARNAISE REDUCTION

Ingredients

75 grams shallot, sliced thin
250 grams white wine
50 grams champagne vinegar
5 grams black peppercorn, coarsely ground
30 grams tarragon leaves, minced
1 bay leaf

Equipment

Saucepan

METHOD

Place all ingredients into a saucepan and bring to a simmer. Reduce the liquids by one-third. Remove the bay leaf. Cool and reserve until needed.

SIMPLIFIED SOUS VIDE: SALMON

LEARN MORE: SIMPLIFYING SOUS VIDE

Many other proteins can be cooked in the same simplified sous vide method as the salmon fillet shown here. Chef Keller urges you to try this preparation with any meat that can be compressed in plastic wrap: chicken, duck breast, fish fillets. But it's important to keep in mind the shape of the protein when choosing what you're going to cook. A sirloin might be difficult to roll and compress in plastic because of its shape, whereas a fillet of beef would compress well. Remember Chef Keller's golden rule: If you can form it into a cylinder, then you can cook it this way.

IN CONCLUSION

There is a plethora of information in the world about the science and chemistry of sous vide cooking. Chef Keller urges you to do your research on the method by reading books and looking at online resources in an effort to further educate yourself on the vast preparation methods available to you. Manufacturers of sous vide equipment also provide ample information on how to use their tools. In addition, there are various sous vide apps that provide general guidelines for time and temperature. For example, the PolyScience Sous Vide Toolbox app is a good reference on times and temperatures for different foods.

Sous vide is an opportunity to have fun and expand your cooking horizons. But no matter whether you're using conventional cooking methods or sous vide techniques, remember that successful cooking is about time and temperature.





DESSERTS

DESSERTS

“Growing up, dessert was a reward. It was always, ‘Eat your peas and you can have dessert’ or ‘Make sure you finish your meat, and you can have dessert.’”

Compared with many other kinds of cooking, making dessert requires a higher level of exactitude. Recipes for doughs must be measured to the gram; precise execution, time, and temperature are also critical. You get the point: Precision is key to producing great results.

Even if you don’t have a sweet tooth yourself, you’ll want to make these wonderful desserts for your family and friends.

DESSERTS: POTS DE CRÈME

Chef Thomas Keller / Chapter Thirteen



MASTERCLASS

DESSERTS: POTS DE CRÈME

“The quality of anything that we make is partially based on the ingredients we use, and then, of course, the technique or our skills to be able to produce it.”

Custards are very versatile and can be used in many ways, from savory quiches to crème brûlées. In Chef Keller’s first MasterClass, he demonstrates making crème anglaise, a custard that is one of his favorite sauces for dessert and is the basis for ice creams. Pot de crème—literally, a pot of cream—is another custard made using a similar technique to that of crème anglaise.

Pot de crème is a traditional French custard that can be made in a variety of flavors. Here, Chef Keller prepares chocolate pots de crème. His preference is for Nicaragua dark chocolate handcrafted in Napa by his bean-to-bar chocolate company, Keller Manni Chocolate, but he encourages you to use whatever chocolate you like best—milk chocolate to dark chocolate.

Pots de crème are typically baked in the oven, but Chef Keller cooks his custard on the stovetop before pouring it into individual serving pots, which he then puts in the refrigerator to chill. Chef Keller stresses a few key points: When heating your cream on the stovetop, take care to not let it boil over. Pour the cream into your egg and sugar mixture slowly, as your goal is to bring the eggs up to temperature gradually without causing them to cook or curdle. Chef Keller shows you two ways to gauge whether your custard is ready: with a thermometer and by checking its viscosity with a wooden spoon.

Prior to refrigerating his custard, Chef Keller whips it lightly with an immersion blender to ensure the mixture is homogenous and to give it an airy, mousse-like consistency.

DESSERTS: POTS DE CRÈME

POTS DE CRÈME

Mise en Place

Ingredients

190 grams K+M Nicaragua dark chocolate
or another chocolate of your choice,
finely chopped, plus extra for garnish
220 grams whole milk
220 grams heavy cream
85 grams egg yolks
15 grams granulated sugar
1 gram kosher salt
Crème Chantilly (recipe below)

Equipment

Vegetable peeler
Small bowl
Medium saucepot
Large mixing bowl
Balloon whisk
Wooden spoon
Instant-read thermometer (optional)
Immersion blender
Measuring cup with a spout
6 small ramekins
Sheet pan
Plastic wrap
Plating spoons

METHOD

Use a vegetable peeler to shave dark chocolate into a bowl and set it aside to use as garnish.

Bring the milk and heavy cream to a small simmer in a medium saucepot over medium-low heat. While the mixture is coming up to a simmer, whisk the egg yolks, sugar, and salt together in a large mixing bowl.

While whisking the yolk-sugar-salt mixture, slowly pour in half of the hot milk-cream mixture. Be sure to whisk the yolk-sugar mixture continuously to temper the yolks and prevent curdling. Pour the tempered mixture back into the pot, off the stove, adding it to the remaining milk-cream mixture. Whisk to combine.

Return the pot to the stove over low heat. Continuously scrape the bottom and corners of the saucepot and stir the mixture for even heating. Be careful not to overcook the mixture and curdle the eggs; you may need to occasionally remove the saucepot from the heat to prevent overcooking. Cook this mixture until an instant-read thermometer reads 85°C or a clean line is left behind when you run your finger through the custard on the back of a wooden spoon, about 2 minutes.

As soon as the custard reaches the proper temperature, remove the saucepot from the heat, and add the chopped chocolate. Whisk the mixture, taking care to reach the corners of the saucepot, until all the chocolate is melted and evenly dispersed. The end result should resemble a pudding.

Use an immersion blender to blend the mixture until it is homogeneous, light, and aerated, and the chocolate is emulsified. The color of the mixture will lighten up from the blending.

DESSERTS: POTS DE CRÈME

Transfer the custard to a measuring cup with a spout, and divide the custard among ramekins, small glass jars, or classic “pots.”

Take care to pour the custard evenly into the containers, then give the containers a slight tap against a towel-lined counter to ensure an even layer.

Place the ramekins on a sheet pan and lightly cover them with a piece of plastic wrap. Chill the ramekins in the refrigerator until the custard is set, at least 4 hours. Thirty minutes prior to serving, remove the ramekins from the refrigerator to ensure that the chocolate tempers slightly.

While the custard is tempering, make the Crème Chantilly.

Dip a plating spoon in warm water, dry it, and spoon Crème Chantilly over the custard. Repeat for all ramekins. Garnish with the shaved chocolate.

DESSERTS: POTS DE CRÈME

CRÈME CHANTILLY

Mise en Place

Ingredients

120 grams heavy cream
10 grams granulated sugar
1 gram vanilla bean paste or
1 vanilla bean, split and scraped

Equipment

Stand mixer with whisk attachment

METHOD

Add the cream to the bowl of a stand mixer. Add the sugar and the vanilla bean paste (or the scraped seeds of the vanilla bean). Whip at medium speed until the cream forms stiff peaks. Take caution not to overwhip. Use immediately.

LEARN MORE: CHOCOLATE

Broadly defined, chocolate is made from grinding roasted and cleaned cocoa beans into a fine paste. Most commonly, sugar would also be added during the grinding process, though this is not a requirement. In fact, some delicately flavored beans are made into chocolate with a 100 percent cocoa content so as not to mask or overwhelm some of the more subtle notes. There are many types of chocolate, each of which vary in quality and characteristics, including chocolate with different fats added as well as “raw” chocolate that is not roasted before grinding.

One important variable is cocoa percentage, which is listed on the label of almost any chocolate you buy. This number tells you what percentage of the chocolate is made up of cocoa bean, which includes the nibs, the cocoa butter that is naturally part of the bean, plus any additional cocoa butter that may be added. As a general rule, the higher the percentage of cocoa, the less sweet and more intense the chocolate will be, though intensity of flavor also varies from one varietal of cocoa bean to another. The quantity of cocoa in chocolate is not necessarily reflective of its quality, and in the end, the chocolate you opt to cook with should come down to personal taste and price point.



DESSERTS: LEMON TART WITH PINE NUT CRUST

Chef Thomas Keller / Chapter Fourteen



DESSERTS: LEMON TART WITH PINE NUT CRUST

*“This lemon tart is very special to me—it’s the only recipe I’ve included in two of my cookbooks, *The French Laundry* and *Bouchon*, because I love it so much.”*

This recipe was introduced to Chef Keller in the 1980s by the pastry chef at Rakel, his early New York restaurant, and he’s been making it at his restaurants ever since. Along with the texture and bright, lemony flavor, what Chef Keller loves about this tart is that its crust uses pine nuts, which is an unusual ingredient for a pastry shell.

Start with raw pine nuts—they’ll get roasted when you bake the crust. Pulse them halfway in the food processor; if you pulse them too much, their oils will release too soon. You want those oils to be absorbed by the flour and incorporated into your dough. If you do not want to use pine nuts, any blanched and skinned tree nut works well in this recipe. Almonds and hazelnuts are good substitutions.

Another thing to love about this recipe is that the dough doesn’t need to be rolled. Instead, you press it into the tart pan with your hands. Be patient as

you hand-press your dough into the tart pan, making sure to spread it to an even thickness and to seal any cracks along the edges where the sides of the pan meet the bottom.

Making the lemon sabayon filling is fairly straightforward, too, but be prepared to give the muscles in your whisking arm a workout.

Just as oven temperature is important in baking, so is the temperature of your kitchen. Ideally, you don’t want your environment to be too hot, as butter and other fats you may be working with will melt quickly.

Chef Keller says this tart is best served at room temperature within a few hours of assembling, but if necessary, it can be refrigerated and served cold. One last thing to love about this recipe: It makes enough dough for three tarts, so you can freeze the extra for later use.

DESSERTS: LEMON TART WITH PINE NUT CRUST

PINE NUT CRUST

Mise en Place

Yield: Three 9-inch crusts

Ingredients

280 grams raw pine nuts

360 grams all-purpose flour

70 grams granulated sugar

1 large egg

225 grams unsalted butter, at room temperature

Equipment

Food processor

Bench scraper

Plastic wrap

Fluted 9-inch nonstick tart pan
with removable bottom

Glass with flat bottom and straight sides

Sheet pan

METHOD

Preheat oven to 350°F and position a rack in the middle of the oven.

Place the pine nuts in a food processor and pulse until halfway ground, being careful not to grind the nuts too much, which will extract the oil from the nuts and affect the consistency of the dough. Add the flour and sugar to the food processor and pulse until you can just barely distinguish the nuts from the rest of the ingredients.

Turn the mixture onto a clean work surface and gather it into a mound. Form a well in the center and add the egg and butter into the center of the well. Use your hands to mix the egg and butter, incrementally incorporating the flour mixture. Use the bench scraper as needed to bring the ingredients together. The dough may seem dry, but as you work it, the butter will be absorbed into the flour. When the dough starts to come together, knead it with the heel of your hand to further blend the ingredients and to form one homogenous mass of dough.

Shape the dough into a loaf and then divide it equally into thirds. Form each third into a disc, approximately 1 inch thick, then wrap each piece in plastic wrap. Refrigerate the dough you'll be using immediately for at least 10 minutes to let it rest. Place the extra wrapped discs of dough into a resealable freezer bag and freeze for future use.

Transfer the rested dough to a nonstick fluted tart pan—there's no need to butter or flour the pan. Begin removing small pieces of dough from the disc and pressing them up against the sides of the pan. Be mindful to maintain a uniform thickness, approximately 3/16 inch, around the edge of the pan. After the sides of the pan have been lined with an even layer of dough, press pieces of dough onto the bottom of the pan until it's completely and evenly covered. Make sure the dough forms a tight seal in the corners where the sides and bottom of the tart meet.

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PINE NUT CRUST

Use your fingers to remove any excess dough that protrudes above the edge of the tart pan and smooth off the edges for a finished look. Gently press the side and bottom of a glass against the dough at the sides and bottom of the pan—this will even out the thickness of the dough at the corners.

Place the tart pan onto a sheet pan and into the oven. Bake the tart shell for 17 to 20 minutes, or until golden brown. Let the crust cool before filling it.

LEMON SABAYON

Mise en Place

Ingredients

2 large eggs, cold
2 large egg yolks, cold
150 grams granulated sugar
120 grams fresh lemon juice
85 grams unsalted butter, cut
into ¼-inch cubes, cold

Equipment

Saucepot with a diameter that is slightly
smaller than that of the mixing bowl
Large metal mixing bowl
Balloon whisk or electric mixer
Kitchen towels
Rubber spatula
Tart shell
Sheet pan
Slicing knife
Plate or cutting board

METHOD

Position the oven rack in the topmost slot, right under the broiler, and preheat the broiler. Keep the oven door open slightly so that the temperature in the oven does not get too hot.

Bring about 1½ inches of water to a boil in a saucepot. Make sure the water is shallow enough so that it will not touch the bottom of the mixing bowl when the bowl is set on top of the saucepot. Add the eggs and sugar to the mixing bowl and place the bowl over the saucepot. Immediately reduce the heat to low. Whisk the mixture continuously while stabilizing the bowl. (You can also use an electric mixer if you don't want to whisk the sabayon by hand.) Hold the bowl with a kitchen towel to protect yourself from the heat.

After about 2½ minutes, the mixture should thicken and be in the ribbon stage. You can tell when you've reached the ribbon stage when the lines from whisking persist for a brief moment on the surface of the mixture. Also, when you lift the whisk above the bowl, the mixture should fall back into the bowl, forming "ribbons." Once the mixture has reached this stage, add 1/3 of the lemon juice.

Whisk the lemon juice into the mixture in a figure-eight motion until the mixture's consistency returns to the ribbon stage, about

DESSERTS: LEMON TART WITH PINE NUT CRUST

1 minute. Add another 1/3 of the lemon juice. Whisk until the mixture thickens to the ribbon stage again, another minute, then add the last of the lemon juice. Whisk until the mixture returns to the ribbon stage.

The total cooking time is approximately 6 minutes. It is very important to whisk continuously this entire time to prevent the eggs from getting too hot and scrambling.

Set the bowl on a kitchen towel on the counter and add the butter. Return the bowl back on top of the saucepot and whisk to emulsify the butter into the sabayon.

Pour the warm sabayon into the tart shell set on a sheet pan. Gently tap the sheet pan against a towel-lined counter to remove any air bubbles in the sabayon.

Place the tart under the broiler, keeping the oven door open slightly to allow the top of the tart to brown without building too much oven heat that will overcook the custard. Brûlée the top of the sabayon, rotating the tart as needed for even color; do not leave the oven unattended, as the sabayon will caramelize quickly. Remove the tart from the broiler, and let it sit for 1 hour at room temperature before serving. If you're serving it more than 1 hour after broiling, let the tart cool to room temperature first before placing it in the refrigerator. Serve at room temperature or cold.

When slicing the tart, dip your knife blade in hot water, dry it on a towel, and then slice the tart with the hot but dry blade. Repeat this process for each cut.

DESSERTS: LEMON TART WITH PINE NUT CRUST

LEARN MORE: SABAYON

A sabayon is the French adaptation of a dessert with Italian origins. In Italy, it is called zabaione, and it is traditionally made with egg yolks, sugar, and marsala wine, whisked and cooked in a bain-marie or over a

double boiler, then poured over fruit. Zabaione was incorporated into French cuisine in the 1800s. Though it is used primarily as a dessert cream, sabayon can also refer to certain savory sauces.



DESSERTS: APPLE PIE WITH LARD CRUST

Chef Thomas Keller / Chapter Fifteen



MASTERCLASS

DESSERTS: APPLE PIE WITH LARD CRUST

*“Here’s wishing you a little
sweetness every day.”*

While Chef Keller—like many others—strongly associates apple pie with his American childhood, the fact is apple pie originated in England. English or American, this apple pie recipe with a classic pie crust is a dessert staple. The iconic lattice top not only adds visual appeal, but it also helps to vent the filling, keeping the crust crispy.

When it comes to your classic apple pie, start with cold fats—chilled butter and lard. (Vegetarian replacements for the lard would be cold vegetable shortening or cold clarified butter in a 1:1 substitution. See Chapter 3: Sauté: Dover Sole With Pommes Château for the Quick Clarified Butter recipe.)

Work as briskly as you can, and don’t worry about leaving little pea-size bits of fat in your dough. Using a baking stone will help the crust and pie bake evenly. If you do not have access to a baking stone, you can use a large cast-iron pan that fits the pie tin, a heavy-bottomed baking tray, or just two stacked baking trays.

Chef Keller prefers Granny Smith apples for apple pie due to their hard, crisp, and tart properties. This recipe uses both grated and diced apples. The grated apple cooks quickly and consistently, allowing for excess liquid to evaporate and resulting in an apple-sauce texture with just the right amount of moisture. Alternatively, the diced apple provides a textural contrast. A small amount of cornstarch will help set the filling.

DESSERTS: APPLE PIE WITH LARD CRUST

PIE DOUGH

Mise en Place

Ingredients

275 grams all-purpose flour
175 grams pastry flour or “00” flour
22 grams granulated sugar
2 grams kosher salt
1 pinch baking powder
200 grams unsalted butter,
cut into ¼ inch cubes, very cold
72 grams lard,
cut into ¼ inch cubes, very cold
52 grams cold water
18 grams white wine vinegar

Equipment

Large mixing bowl
Plastic bench scraper
4 sheets parchment paper, sized 16 x 12 inches
2 half sheet pans, sized 18 x 13 inches
Rolling pin

METHOD

Combine the two flours, sugar, salt, and baking powder in a large mixing bowl, and mix evenly. “Cut” the butter and lard into the flour mixture with your hands, breaking the fats into pieces no larger than the size of a pea.

Once the fats are sufficiently cut into the flour mixture, make a well in the bottom of the bowl, and pour in the cold water and white wine vinegar. Incorporate the liquid into the mixture with your hands. Do not overwork the dough.

Turn the mixture onto a clean work surface and use your hands to form it into a dough. Use a bench scraper to incorporate any stray pieces. Bring the dough together and knead just enough to ensure it is evenly mixed. Do not over-knead.

Divide the dough equally into two parts. Shape one of the halves into a circular disc approximately ½ inch thick. Shape the other half into a ½-inch-thick rectangle. Place both halves on a parchment paper-lined half sheet pan. Use a sheet of parchment paper to cover the doughs.

Chill the doughs in the refrigerator for 10 to 15 minutes.

Roll out the circular disc between 2 sheets of parchment paper, rotating the dough by quarter turns as you roll to maintain the circular shape. Roll the dough to a thickness of ¼ inch. Gently push or slide the rolling pin across the surface of the dough to smooth out any unevenness or ridges. Repeat this 4 times, rotating the dough a quarter turn each time. Set the entire ensemble on a half sheet pan.

Roll out the rectangular piece of dough between 2 sheets of parchment paper, making efforts to maintain a rectangular shape.

DESSERTS: APPLE PIE WITH LARD CRUST

PIE DOUGH

Roll to a thickness of slightly less than $\frac{1}{4}$ inch with a length of 11 inches. Gently push or slide the rolling pin across the surface of the dough to smooth out any unevenness or ridges. Repeat this 4 times, rotating the dough a quarter turn each time. Set the entire ensemble on a second half sheet pan.

Refrigerate both sheets of pie dough for 10 to 15 minutes before use.

DESSERTS: APPLE PIE WITH LARD CRUST

APPLE PIE

Mise en Place

Ingredients

2 sheets pie dough (recipe on page 93)
 125 grams granulated sugar
 15 grams cornstarch
 1 gram cinnamon powder
 1 gram ginger powder
 16 to 18 apples
 1 vanilla bean, split in half
 lengthwise, not scraped
 50 grams lemon juice
 50 grams egg white, lightly whipped with a fork
 Granulated sugar for dusting

Equipment

Baking stone
 8- to 10-inch pie tin
 Paring knife
 Plastic wrap
 Baking beans or pie weights
 Mixing bowl
 Peeler
 Box grater
 Scale
 Large sauteuse
 Wooden spoon
 Chef's knife
 Cutting board
 Cake tester (optional)
 Rubber spatula
 Fluted pasta cutter
 Kitchen scissors
 Pastry brush
 Serrated knife

METHOD

Preheat the oven to 350°F, along with a baking stone.

Remove the circular sheet of pie dough from the refrigerator. Place the sheet of dough centered over the pie tin. Gently lift the edge of the dough to let the dough naturally fall into the corners of the pie tin. Do this for the entire circumference of the tin.

With your thumbs and index fingers, crimp the pie dough using the extra dough hanging over the edge of the tin. Cut away the excess dough with a paring knife. Reaccentuate the crimped edge as needed. Transfer the lined pie tin to the refrigerator to chill, set, and rest for 10 minutes.

Remove the lined pie tin from the refrigerator and line with 2 layers of plastic wrap in a similar technique used to line the pie tin. Fill with an even layer of baking beans up to the top of the pie tin. Fold the excess plastic wrap over the beans to expose the edge of the pie crust. Bake directly on a heated baking stone at 350°F for 30 minutes until the crust is a light golden brown.

Remove the pie crust from the oven. Leave the oven on at 350°F and leave the baking stone inside.

When the baking beans are cool enough to handle, lift the plastic wrap filled with baking beans out of the baked pie crust. While the crust continues cooling, make the pie filling.

In a bowl, combine the sugar, cornstarch, and spices. Mix well and set aside. Peel and grate 8 to 9 apples on the large teeth of a box grater. Immediately weigh out 900 grams of grated apple and place it in the sauteuse with the vanilla bean and lemon juice. Cook the mixture on medium heat, stirring occasionally for 15 minutes until there is little to no visible moisture on the bottom of the pan.

DESSERTS: APPLE PIE WITH LARD CRUST

While the grated apple is cooking, peel the remaining 8 to 9 apples and dice them into a rough $\frac{1}{4}$ -inch dice. Once the grated apple has finished cooking, add 600 grams of the apple dice. Continue to cook the mixture for another 10 to 15 minutes, stirring often, until the apple dice has minimal resistance when pierced with a paring knife or cake tester.

Remove the pan from heat and remove the vanilla pod. Add the sugar mixture and stir to fully incorporate. Place the mixture into a bowl and allow the filling to cool to room temperature, approximately 20 minutes.

Fill the baked pie crust with the apple filling and use a rubber spatula to smooth out the top of the filling.

Cut the second sheet of pie dough into $\frac{1}{2}$ -inch-wide strips using the fluted pasta cutter. You will need 12 to 14 strips. Weave a lattice with the dough strips spaced $\frac{1}{2}$ inch apart over the top of the pie, allowing the excess dough to drape over the edge. Use scissors to trim the edges of the lattice $\frac{1}{4}$ -inch beyond the edge of the crust. Brush the lattice with egg white and dust with sugar.

Bake the pie directly on a heated baking stone in an oven at 350°F for 45 minutes. Remove from the oven and allow to cool at room temperature for at least 4 hours before slicing with a serrated knife.



BONUS: SOUS VIDE COOKING: VARYING TIME AND TEMPERATURE

Chef Thomas Keller / Chapter Sixteen



MASTERCLASS

BONUS: SOUS VIDE COOKING: VARYING TIME AND TEMPERATURE

Sous vide cooking, like all cooking, is about time and temperature. You can adjust either or both to influence your results. Chef Keller demonstrates this by walking through three short rib preparations: He first shows two short ribs cooked sous vide, one at 62°C for 48 hours and another at 79°C for 24 hours. He then shows a short rib that was traditionally braised to juxtapose the conventional cooking method with sous vide cooking. (Chef Keller teaches you how to braise short ribs in chapter 13 of his second MasterClass.)

While both short ribs cooked sous vide are succulent and consistently tender throughout, there are differences between them. As Chef Keller notes, some juice from the meat has collected in the vacuum sealer bag

around the 62°C short rib, which has been cooked long enough to break down its muscle and fibers but not at a high enough temperature so as to render out much of the fat that gives the meat its flavor. By contrast, more fat and juices have collected around the 79°C short rib, resulting in a smaller piece of meat that is more similar in texture to the traditionally braised short rib.

The serving options are endless when it comes to sous vide short ribs: Pan-sear them like a steak, slice them and toss them into a salad, or serve them with a traditional sauce, such as one that is veal stock-based.

BONUS: SOUS VIDE COOKING: VARYING TIME AND TEMPERATURE

SOUS VIDE SHORT RIB

Mise en Place

Ingredients

1 portion boneless short rib, approximately
210 grams and about 1 inch thick
Kosher salt
Canola oil
30 grams unsalted butter, cut into ½-inch cubes

Equipment

Plastic container for water bath
Immersion circulator
Single-use gloves
Vacuum sealer bag
Chamber vacuum sealer
Aluminum foil
Kitchen scissors
Kitchen towel or paper towels
Small sauté pan
Plate lined with paper towels
Slicing knife or chef's knife
Cutting board
Spoon

METHOD

Prepare a water bath with an immersion circulator set to 62°C.

Season both sides of the short rib with salt. Vacuum seal the short rib in a vacuum sealer bag and place it into the 62°C water bath. Cover the water bath container with aluminum foil to retain heat and minimize evaporation.

Cook the short rib for 48 hours.

Remove the short rib from the plastic bag and use a kitchen towel or paper towel to pat it dry.

Set a small sauté pan over high heat. Pour enough oil in the pan to thinly coat the bottom. When the oil starts to smoke, place the short rib in the pan, searing each side for about 30 seconds. Add the butter to the top of the short rib, lower the heat to medium, and baste the short rib with the butter, about 30 seconds.

Transfer the short rib to a plate lined with paper towels to drain briefly. Slice the short rib on a bias and serve as desired.

LEARN MORE: EXPERIMENTING WITH TIME AND TEMPERATURE

Cook a short rib at 79°C for 24 hours to achieve a texture similar to that of a traditionally braised short rib. Also, experiment with adding herbs and spices into the bag to impart your own flavors. Some possibilities include black pepper or a sprig of thyme.