

Cooking Sous Vide



A Guide for the Home Cook

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Intro to Sous Vide

What is Sous Vide Cooking?

First used in kitchens in France in the 1970s, sous vide is the process of cooking vacuum sealed food in a low temperature water bath over long periods of time. This process helps to achieve texture and tenderness not found with other cooking methods and extends the window of time food can be cooked without being overdone. It has been spreading slowly through professional kitchens and is finally making the jump to home kitchens.

One of the tenants of sous vide cooking is that food should be cooked at the temperature it will be served at. For instance, if you are cooking a steak to medium rare, you want to serve it at 125 degrees Fahrenheit. With traditional cooking, you would cook it on a hot grill or oven at around 400-500 degrees and pull it off at the right moment when the middle has reached 125 degrees. This results in a bulls eye effect of burnt meat on the outside turning to medium rare in the middle and requires exact timing to cook it properly.

Preparing this same steak via sous vide would entail cooking it at 125 degrees for one to two hours. This will result in the entire piece of meat being perfectly cooked medium rare. Since the outside sear adds great flavor and a desirable texture many people will take the finished sous vide meat and quickly grill or sear the outside over very high heat.

There are two basic components to sous vide cooking at home: temperature and time. Each one of these can

affect the end quality, texture, and taste of sous vide dishes. Learning to understand how they affect the food is one of the most important things as you begin sous vide cooking.

Temperature

All sous vide cooking is done at temperatures below the boiling point of water and normally not above 185°F. You usually cook the food at the temperature you want it served at, so most settings are between 120°F and 185°F, depending on the food being prepared.

While the range of temperature used in sous vide is much less variable than for traditional cooking, the precise control of the temperature is of great importance.

Time

The use of low temperatures in sous vide cooking requires longer cooking times to achieve the same tenderization as traditional techniques.

Also, your window of time to perfectly cooked food is much longer than with traditional cooking methods because you are cooking the food at the temperature you want it to end up at, rather than a higher temperature. This also allows you to leave food in the water bath even after it is done since keeping it at this temperature does not dry out the food, up to several hours longer for tougher cuts of meat. However, be careful not to take this concept too far as food can still become overcooked by sous vide, many times without showing it externally.

Temperature and Time Together

The power of sous vide cooking comes from precisely controlling both temperature and time. This is important because of the way meat reacts to different temperatures.

At 120°F meat slowly begins to tenderize as the protein myosin begins to coagulate and the connective tissue in the meat begins to break down. As the temperature increases so does the speed of tenderization.

However, meat also begins to lose its moisture above 140°F as the heat causes the collagen in the cells to shrink and wring out the moisture. This happens very quickly over 150°F and meat becomes completely dried out above 160°F.

Many tough cuts of meat are braised or roasted for a long period of time so the meat can fully tenderize, but because of the high temperatures they can easily become dried out. Using sous vide allows you to hold the meat below the 140°F barrier long enough for the slower tenderization process to be effective. This results in very tender meat that is still moist and not overcooked.

Benefits of Sous Vide

Just like any method of cooking there are many reasons to use the sous vide technique, depending on what you are trying to accomplish.

Moisture

Because food cooked in the sous vide style is vacuum sealed it does not lose much moisture or flavor. The food pouch holds in all the liquid released by the food. This is especially apparent when compared to traditional techniques such as roasting and braising where the meat has a tendency to dry out.

Also, as discussed in the “Temperature and Time Together” section, the low heat used in sous vide prevents the collagen from constricting and forcing out more moisture. Controlling the collagen combined with the vacuum sealing, results in very moist foods.

Tenderness

The sous vide technique allows you to cook tough cuts of meat at an incredibly low temperature, allowing you to tenderize them while remaining perfectly medium-rare. This is very effective for shanks, roasts and other pieces of meat that are typically braised or roasted, but often dry out or get overcooked in the process.

Texture

Using sous vide to cook food also exposes new textures. This is because of two things. First, the vacuum sealing process can make lighter foods denser, like watermelon. Second, the lack of high heat used in cooking can result in silky and smoothly textured food that is impossible to replicate with traditional cooking techniques.

Disadvantages of Sous Vide

Like any culinary technique, sous vide cooking also has its drawbacks. Fortunately, the first two are slowly disappearing as sous vide becomes a more prevalent technique and the third can be minimized with planning.

Information

The first disadvantage is the lack of easily accessible information about sous vide cooking. While there is information out there on websites, forums, books, and magazines, there isn't a single repository you can use to collect it. This has meant a lot of time lost on research before even getting started. This book will be enough to get you started and will also direct you where to find more information as you become more experienced with the technique.