

It's in the Bag

Controversial “under vacuum” cooking seals in the best flavors

BY ELIZABETH JOHNSON
PHOTOGRAPHY BY EVAN KAFKA

“**H**ere, taste this,” says Dan Barber, the chef-owner of Blue Hill restaurant in Manhattan. His hand moves toward mine, but I can’t make out what he’s holding. It’s a small piece of meat—not beef, for sure. But is it chicken? Pork? I put it in my mouth. Ah, of course. It’s duck.

Then I furrow my brow. It’s not any duck I’ve had before. It tastes purely of duck, but the texture is different—not at all stringy or fatty. Rather, it’s pink, smooth and juicy. And not crispy. Not one bit.

“Amazing, isn’t it?” he asks.

Barber had cooked the duck *sous vide*, French for “under vacuum.” The technique, once reserved for industrial applications, was experimental in France 30 years ago, and these days, it’s catching on in restaurants from London to Los Angeles.



Above, Dan Barber, chef-owner of Blue Hill in Manhattan. Left, Barber’s veal cannelloni with a stew of “seven flat and shelling beans.”



It works like this: You put what you want to cook (and any seasonings you want to flavor it with) in a plastic bag and vacuum seal it with a pressure machine. You then cook the food at a low temperature, usually by immersing the bag in lukewarm water. By cooking it slowly, the food gently comes up to the proper temperature—yet never goes over it. You can serve it right away or the bag can be chilled, then reheated right before it's needed.

So you'll understand my confusion about that duck. After all, consider a great steak: Outside it's crispy and charred, almost sweet with caramelization. When you slice it, you notice that right next to that char, the steak is cooked through; it's nearly gray and a little tough. As you move closer and closer to the middle of the meat, it gets less cooked—more pink, more tender—until you get to that sweet spot in the center: medium rare.

That sweet spot is what Barber and others call the bull's-eye. With sous vide cooking, the entire steak is a bull's-eye. From the outside edge to the very core, the meat is at the ideal doneness.

And that explains my momentary disorientation. Barber hadn't yet seared that duck. It was pink, all the way through. A perfect bull's-eye.

WHY IT TASTES GOOD

Sous vide is certainly convenient for chefs. In the chaos of a restaurant kitchen, they never need worry if they're burning the pork roast. Indeed, in 2005 some of Washington, D.C.'s, top chefs—Michel Richard of Citronelle, Roberto Donna of Galileo, Todd Gray of Equinox and Kaz Okochi of Kaz Sushi Bistro, according to a *Washington Post* article—prepared nine courses for 400 Katrina survivors in less than an hour because the food came in vacuum-sealed plastic bags.

But convenience doesn't necessarily mean ease.

"There's a painstaking effort to cook like that," says Shea Gallante, the chef of Cru in Manhattan. "It's not easier by any means. It's actually more tedious."

But the return for the hard work is getting a perfect texture and flavor every time. And consistency is what keeps diners coming back.

Consider the char on that steak. As food-science writer Harold McGee, the author of *On Food and Cooking: The Science and Lore of the Kitchen*, explains it: The high heat that created it tightens—almost presses down on—muscle fibers and pushes out water. (That's why when food is overcooked it's tough and dry.)

"But you're not just pushing out water," says Barber. "You're pushing out water that's flavored with pork—it's pork water. It's flavor!"

With sous vide, that flavor stays sealed inside the plastic, protected. And it becomes more intense the longer it stays there.



On this page, Dan Barber prepares Berkshire braised bacon with cranberry beans and tomato confit, far left. The bacon is cooked sous vide, which is French for "under vacuum."

CAFÉ CHATTER

“The positive qualities are accentuated,” says Michael Anthony, who is now the chef at Gramercy Tavern in Manhattan but cooked sous vide when he was a chef with Barber at Blue Hill. “The seasoning, the salt, the spices that you add to the bag—even the fats and the flavors from the liquid—is amplified in there.”

It’s a truer flavor than, say, in a braise—another method of slow cooking over low heat. Consider, says Barber, what happens when you braise a piece of lamb in stock. Some of the stock flavor will infuse into the lamb. Some of the lamb flavor will infuse into the stock. And some of the stock will evaporate—its flavor gone forever.

“Sous vide allows you to keep more of that flavor intact,” Barber says.

McGee agrees.

“You get what a person who likes it would say is the pure flavor of that meat,” he says.

NOTHING NEW UNDER THE SEAL

If you don’t take the “under vacuum” moniker literally, people have been cooking sous vide style for a very long time. Ever had the Mexican dish from the Yucatán called cochinita pibil? The dish originated with the Mayans, who dug a hole, put some hot coals in the bottom, wrapped a piece of pork in banana leaves, put it on top of the coals and covered it with dirt. The meat was wrapped, covered and cooked under pressure over low heat for a long time. (Today the dish is still cooked wrapped in banana leaves, but you can make it in a Dutch oven and it comes out just fine.)

But it was in the 1970s, in Roanne, France, where the modern practice got its start. Chef Claude Troisgros at Troisgros, a Michelin three-star restaurant, wanted a way to keep less of his foie gras from melting away in the hot pan. Georges Pralus, who today calls himself *le roi*—the king—of sous vide, figured out that if he sealed and poached foie gras, it wouldn’t shrink nearly as much.

It was a revelation, and it soon became a popular technique with such well-respected chefs as Paul Bocuse and Joel Robuchon. Robuchon, realizing the technique could be applied outside haute cuisine, paired with scientist Bruno Goussault and created

meals to be cooked sous vide on the train from Paris to Strasburg in 1982.

In America, the technique wasn’t as easily accepted at the white tablecloth restaurants. Instead, it went industrial. Cuisine Solutions, for example, where Goussault is a chief scientist, provides sous vide food for companies such as Continental and Amtrak. Between 60 and 80 percent of the dishes on Acela’s first-class menu, including bouillabaisse, halibut and meat loaf (which comes with corn and mashed potatoes), has been previously cooked and sealed in plastic by Cuisine Solutions. Corporate chef Timothy Costello says Amtrak has been using sous vide since before he arrived on the scene in 1999. Those lamb shanks that were on Acela last spring? A recipe developed by Costello that Cuisine Solutions prepared sous vide.

“It’s worked for our needs,” Costello says. “Now everybody wants to do sous vide, and we’ve been doing it for 10 years.”

The technique got a foot in the swinging door of the high-end restaurant kitchen once Pralus and Goussault started offering classes to chefs like David Bouley of Bouley in Manhattan. (According to chefs I’ve spoken with, the two men have different styles of teaching sous vide: Pralus focuses on recipes; Goussault teaches the technique.)

VACUUMING, MODERN-STYLE

By 2005, sous vide started to get a lot more press, including a *New York Times* piece, “Under Pressure,” by Amanda Hesser. The New York City Health Department took note. The government is concerned about botulism, which can survive in the anaerobic environment that sous vide provides. Restaurants in New York that use sous vide must now have a certified safety plan, says Sara Markt, a spokeswoman for the department. As of press time, Blue Hill and Per Se were certified, but Markt says anyone who works with the department will eventually be able to cook sous vide.

Chef Pino Maffeo, who has been using sous vide at Restaurant L in Boston, says it’s not a technique to be taken lightly.

“If you don’t know what you’re doing you could kill somebody,” he says. He learned to cook from a friend’s father who owned a sous vide company in France, and



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CAFÉ CHATTER

he is confident in his techniques. But he warns against other chefs who might be jumping on the bandwagon. “If it doesn’t make your food taste more delicious, then don’t do it. What’s the point?”

He keeps it up because his customers swear by his veal breast.

“When they eat it, they are amazed at how tender and juicy it is,” he says.

He also likes to play with the pressure machine that seals the bags. They can alter the texture of fruits and vegetables. How do crunchy strawberries suit you?

McGee, the food-science writer, agrees there should be guidelines, but as long as the food is cold enough when it is sealed, is cooked properly and served right away or immediately chilled, the bad bacteria don’t have a chance.

“It’s important that there be guidelines, because it’s possible to misuse this and hurt a lot of people,” he says. “But that’s always been true for many cooking techniques. It’s an important thing to make sure people who use sous vide know what they’re doing, but I’m not sure hyper-regulation is necessary.”

More precise rules will be important if the technique moves from the restaurant kitchen to the home. Restaurants use machines such as circulators (which keep the water bath at the right temperature) and combination steam-and-dry-heat ovens (nicknamed “combi ovens”) to cook at a low temperature. But these are too expensive for all but the most dedicated home cooks. To bring home sous vide cooking closer to reality, Goussault says he is talking with Thomas Keller, the chef-owner of The French Laundry in the Napa Valley and Per Se in Manhattan, about a cookbook and a personal sous vide kit. And Michel Richard of Citronelle writes in his book, *Happy in the Kitchen* (Artisan), that anyone can cook sous vide-style by poaching protein wrapped in plastic wrap.

“It’s so delicious,” says Richard, who serves beef short rib cooked sous vide for 72 hours at 120 degrees Fahrenheit at his restaurant. “So tender. So juicy.”

Still, Goussault sees another, simpler application in the future of sous vide: developing a system in which the food and a special plastic tray are cooked sous vide, frozen



Clockwise from above, Dan Barber slices, plates and sautes Stone Barns chicken with quinoa and mushrooms. The pasture-raised chickens are a good fit for sous vide, Barber says, because the technique tenderizes the meat.



and then reheated in the microwave. The food will not be cooked by the microwave but by the vapor inside the bag created by the microwave’s heat.

BACK TO BASICS

Words like *microwave*, *plastic* and *vapor* sound a bit too space age and impersonal for me. I’d rather have the sounds and smells of my kitchen waft into my dining room. And when I’m at home, I want that char on my steak.

I’m not the only one. After all, putting a piece of plastic between you and your food isn’t very sensual. You should have seen the reaction I got when I asked whether the kitchen was using sous vide at Espuma, a restaurant in Rehoboth Beach, Del. The sous chef came shooting out of the back like a bullet to deflect any concerns that his was not the most honest of cooking methods. (The chicken was so juicy I couldn’t help but ask.)

And you might also wonder how Cryovac, the brand name of the company that makes sous vide bags and systems, might fit in with the local, seasonal, farm-to-fork philosophy, one that’s gaining momentum every day. Once again, it’s all about the texture.

For example, many of the ingredients Dan Barber uses at Blue Hill come from one of two farms: Blue Hill Farm in the Berkshires (which his family owns) and Stone Barns Center for Food & Agriculture in Westchester, N.Y., where Barber owns another restaurant, Blue Hill at Stone Barns. The pasture-raised animals run around a lot, so their meat tends to be tougher than something we might buy at the supermarket. Treating it gently, cooking it low and slow, helps tenderize it—and makes sure people in his dining rooms enjoy its texture.

It may mean his restaurant kitchen doesn’t have quite the frantic energy of some, but that’s OK with him.

“It’s not a man’s man kitchen, it’s a soft and gentle kitchen,” says Barber. “And I think the food tastes better. I don’t do it because of my fear of fire; I do it because I think you’re respecting the food more. So sous vide falls in line with that wonderfully.”

And his duck hits the bull’s-eye every time. 🦌



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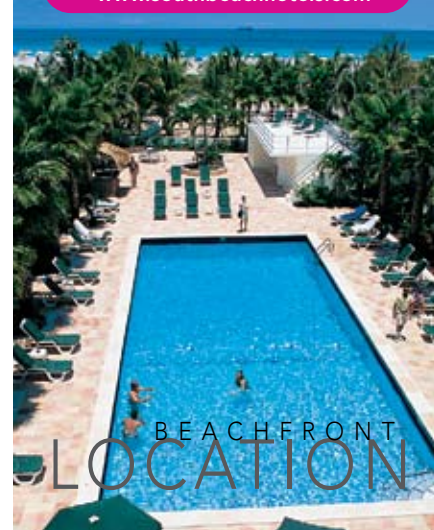
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