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Stovetop Seafood Cooking

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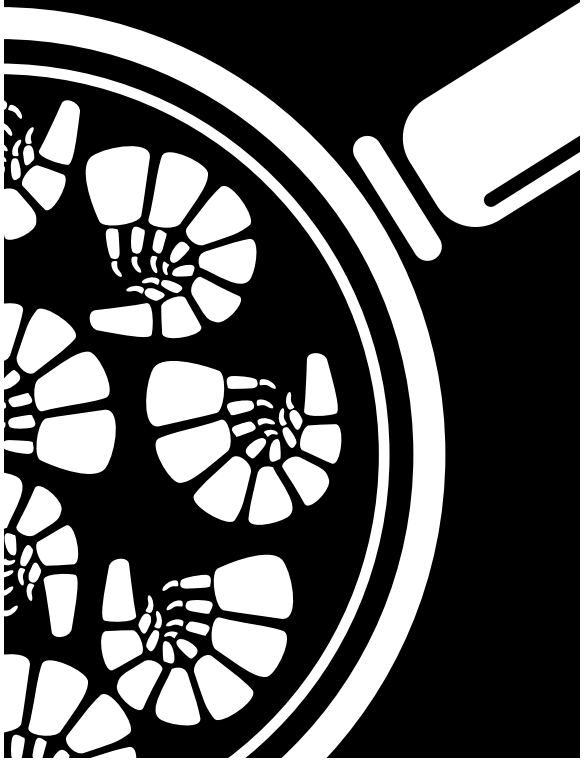


Stovetop Seafood Cooking

At one time cooking seafood meant pulling the deep-fat fryer out of the bottom kitchen cabinet, filling it with shortening or oil, and frying some variety of breaded seafood. While deep frying has its place, it is just one of several "stovetop" cooking methods available for cooking seafood. Baking, broiling, oven frying, boiling, steaming, poaching, and sauteeing are cooking methods that can be used as alternatives to deep frying.

"Stovetop-Suitable" Alabama Seafoods

Whether you catch them yourself or purchase them from a seafood retailer, many Alabama fish, crustaceans, and mollusks are ideal for stovetop cooking. The following is a basic list of Alabama seafood suitable for the stove. Check with your local seafood retailer to find out what is fresh, seasonal, and suited to your budget.

Fish

- Amberjack
- Bluefish
- Catfish
- Cobia (Ling)
- Dolphin (Mahi Mahi)
- Drum (several species)
- Grouper (numerous species)
- King Mackerel
- Shark (several species)
- Snapper (numerous species)
- Spanish Mackerel
- Striped Bass
- Swordfish
- Triggerfish
- Trout (several species)
- Tuna

Mollusks

- Clams
- Mussels
- Oysters
- Scallops

Crustaceans

- Crabs (hard-shell and soft-shell)
- Crab Meat
- Freshwater Lobster Tails
- Freshwater Prawns
- Rock Shrimp
- Shrimp (numerous species)

Serving Amounts

When purchasing whole or drawn (eviscerated, utted) fish, allow ⅔ to ¾ pound per serving. For an-dressed fish, allow ½ to ⅔ pound per serving. And, purchase about ¼ to ⅓ pound of fish steaks or fillets per person.

Usually, 6 to 8 medium to large clams, oysters, or callops is a serving, although some people will at more. It may take as many as 1 dozen mussels to rovide one serving because of their smaller size.

Depending on the size available, one or two soft-hell crabs is a normal serving. Four to six steamed r boiled hard-shell crabs are one serving for most eople. It usually takes three or four freshwater obster tails to make one serving. One pound of ail meat from prawns, rock shrimp, or shrimp will eed three to four people. And, one pound of crab meat baked in a casserole makes up to six servings.

Freshness And Quality Attributes

Fresh seafood should not smell "fishy." Choose eafood that has a faint sea odor. Freshly cut fish, eeled crustacean meats, and shucked mollusk meats should be moist, never slimy or dried around he edges.

Fresh, high-quality fish have clear, well-rounded yes. Older fish may have sunken eyes that are louded and dry. The gills of a fresh fish are bright ed, not darkened or slimy. The flesh should be moist and springy to the touch, not mushy.

Crustaceans also have several easily noticed uality-recognition points. The tail meat from rawns, shrimp, lobster, and rock shrimp should be niformly light colored with no signs of discol-ration around the tail joints. Reject crustacean tail meat that is slimy or smelly. Likewise, fresh soft-hell crabs and cooked crab meat should have a mild, pleasant odor. The color of whole crabs should e bright. Make sure live crabs are alive. Live crabs will quickly thrust their claws upward when tapped with a fork or other utensil.

Mollusks purchased in the shell should also be live. Live, hard-shelled mollusks hold their shells losed tightly when handled. Containers of shucked mollusk meats must bear either a "last sale date" or date shucked." (Fresh mollusk meats can only be old for 14 days after shucking.) Choose oysters hat have a natural creamy color and clear liquid.

Storing Seafood

Fish, crustaceans, and mollusks are among the most perishable muscle protein commodities. Ideally, seafood should be purchased the day it is going to be used. Of course, that is not always possible. Therefore, care must be taken to adequately and appropriately refrigerate or freeze fish and seafood until it is prepared and cooked.

Live, hard-shell mollusks stored un-iced in the refrigerator at 34° to 40°F should remain alive for 7 to 10 days. Freshly shucked mollusk meats can be stored for a week to 10 days if packed in ice in the refrigerator. With the exception of shucked scallop meats, shucked mollusk meats are not good candidates for freezing, with a shelf life of just 1 month. Thaw frozen shucked mollusk meats overnight in the refrigerator only.

Fresh soft-shell crabs will maintain their quality better when wrapped in plastic and packed in ice in the refrigerator; for maximum quality, use them within 2 days of purchase. Soft-shell crabs can be stored and good quality maintained for up to 6 months if they are wrapped in several layers of plastic and stored in a freezer at 0°F or lower. Thaw soft-shell crabs overnight in the refrigerator only.

If you plan to eat them fresh, fish, shrimp, scallop meats, crab meat, and freshwater prawns and lobster tails can be placed in zip-top storage bags or covered plastic containers and kept on ice in the refrigerator (32° to 34°F). Fresh, shucked scallop meats, crab meat, and crustacean tail meat can be stored in this manner for 3 or 4 days. Fresh fish stored this way will keep for 5 to 7 days. Alternately, scallop meats, crustacean tail meat, and fish can be frozen in water and stored in a freezer at 0°F or lower for 4 to 6 months. Thaw these seafoods carefully, either overnight in the refrigerator or under cold, running tap water immediately before use.

Cooked crab meat should not be frozen in water. Cooked crab meat can only be stored in the freezer for relatively short periods of time (less than 1 month). Thaw frozen cooked crab meat overnight in the refrigerator only.

Cooking Techniques

This publication provides basic information about several stovetop cooking techniques to use at home. While these cooking methods do not vary greatly from the same techniques applied to other muscle protein foods, there are certain aspects unique to cooking fish and seafood that require the cook's attention. The most important thing to remember when cooking seafood is to not overcook it. Perfectly cooked seafood is moist and flavorful. Overcooked seafood becomes dry and tasteless.

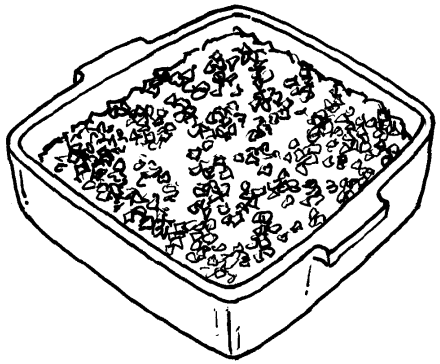
Baking

Temperatures for baking seafood usually range from 325° to 400°F. While almost any variety of seafood can be baked, thicker fish steaks, larger whole fish (with or without stuffing), and seafood-based casseroles are most often oven baked.

To bake fish steaks, whole fish, or stuffed fish, first oil the baking pan with vegetable oil or non-stick spray while the oven is preheating. Place the fish in the baking pan and add seasonings. Once baking is underway, periodically baste the seafood with butter, margarine, vegetable oil, or other liquid to prevent the outer layers of flesh from drying. Seafood is not usually turned during baking because of its size, unwieldiness, and fragility.

The larger sizes or "cuts" of seafoods are usually baked 10 to 12 minutes per inch of thickness to reach an internal temperature of at least 150°F. (A meat thermometer should be used to test for doneness in the thickest part.)

Seafood casserole ingredients need only be mixed in a pre-oiled baking dish, then placed in the pre-heated oven. Drying of the surface layers of seafood casseroles can be prevented either by adding a layer of seasoned bread crumbs or crumbled crackers on top of the casserole, or by placing a heat-proof



over over the baking dish during the latter stages of ooking. As is the case with any other casserole, a eafood casserole is done after the liquid in the enter of the casserole dish has bubbled for at least 0 minutes.

Broiling

Like baking, almost any variety of seafood can be roiled. In broiling, heat is applied only to the top urface of the seafood. Therefore, most seafoods (ept those less than 1 inch in thickness) need to be urned halfway through broiling. Broiling temperaures usually exceed 550°F. Thus, cooking time is reltively short. Seafood should be broiled according to he 10 minutes-per-inch rule. After 10 minutes, test or doneness in fish by flaking with a fork. Test rustacean meat for doneness by cutting into one iece and noting that the inside has turned opaque.

To broil seafood, oil both the broiling pan and the eafood with vegetable oil or non-stick spray to revent sticking. Add seasonings, place the seafood n the broiling pan, and slide into the broiler. The op surface of the seafood should be 4 to 6 inches elow the heat source.

Because of the intense heat, basting is critical when broiling seafood. Butter, margarine, vegetable il, or other liquid applied to seafood during broiling will prevent scorching and drying, while allowing he surface to brown. Remember to turn seafood nce during broiling.

Oven Frying

Oven frying or "shaking and baking" has in reent years evolved as an acceptable "oil-less" subtitute to deep-fat frying. Oven frying is, in fact, the aking of breaded or coated seafood at an elevated emperature (usually 450° to 475°F). Whole, small fish, thin fillets or steaks, shucked mollusk meats, or eeled crustacean tail meat are most often oven ried. Most cooks prefer to use a broiling pan for ven frying to allow excess oil to drain from the eafood.

To oven fry seafood, oil the broiling pan while the ven is preheating. Some cooks like to first moisten heir seafood in milk, beaten eggs, or Italian dressng. The plain or pre-moistened seafood is then oated by either rolling or shaking it in a bag with a omemade or commercially prepared coating mix consisting of seasoned flour, cornmeal, breadcrumbs, cracker meal, corn flakes, or crushed potato chips. The coated seafood is then arranged on the broiler pan and placed in the oven.

Because most of the seafoods that are oven fried are either relatively thin or small in size, turning is usually unnecessary. Oven-fried seafoods are tested for doneness in much the same way as broiled seafoods. Fish is done when the flesh flakes easily when tested with a fork; the inside of completely cooked crustacean meat turns opaque. Mollusk meats become plump and rounded, and the edges begin to curl when they are done.

Boiling

Boiling is a method frequently used to cook crustaceans, whether live, in the shell, or peeled. Boiling is the method of choice when the cook wants to transfer the flavor of spices from the water into the flesh of the seafood.

It is best to use 1 quart of water for each pound of seafood to be boiled. Add the necessary amount of water to a pot that is large enough to accommodate the water and the seafood, plus enough "head space" to prevent boiling over. Add seasonings to the water, cover, and bring to a boil. Reduce heat. As most seasonings are dry, many cooks prefer to allow the seasonings to simmer in the boiling water for about 15 minutes before adding the seafood.

Upon contacting boiling water, the color of crustacean shells change from green, blue, or gray to orange, rose, or red; the flesh changes from translucent to an opaque white color. Because these changes occur quite rapidly in the shell and in the outer layers of flesh, it might appear that the seafood has completely cooked in a relatively short period of time. However, cooking time is dictated by the size of the individual pieces of seafood and how much seafood is being boiled in a given volume of water. Therefore, always time the boiling of seafood.

To accurately time boiling, begin counting from the point at which the water returns to a boil after you add the seafood. Whole live blue crabs and Maine lobsters require a minimum of 12 to 15 minutes at a full rolling boil. Freshwater lobsters require 10 to 12 minutes. And, shrimp require 5 to 7 minutes of boiling to be sure that they are completely done.

Once cooking is complete, remove the seafood from the boiling water and drain. Unless boiled seafood is to be eaten very soon after cooking, it should be cooled, either in the refrigerator or under running water, as appropriate for the particular form of seafood. Otherwise, the seafood will actually continue cooking and become tough. This is especially important in cases where boiling is only used to precook seafood for inclusion in other preparations like shrimp salad or West Indies style crab salad.

Steaming

Steaming is similar to boiling in that boiling water is the source of heat, but there is no direct contact between the seafood and the boiling water. Instead, the seafood is held above the boiling water in a colander or basket in an enclosed pot and cooked by the heat contained in the steam. Like boiling, steaming is often used to cook crustaceans, whether live, in the shell, or peeled. Steaming is also excellent for cooking live mollusks in the shell.

To steam seafood, fill a large pot or kettle to a level just below the bottom of the colander or basket. Apply heat and bring the water to a full, rolling boil. As the water will not directly contact the seafood, only aromatic spices whose odors will be carried with the steam to the seafood need to be added. (Some people sprinkle dry seasoning directly on seafood immediately before steaming.) Add seafood to the basket or colander, cover, and time the steaming process.

Seafood should be steamed for a minimum of 15 minutes. Larger crabs or lobsters may require more time. During steaming, crustaceans change color like they do when they are boiled (see Boiling, above). Mollusks in the shell open or "gape" when they are completely cooked. Once cooking is complete, remove the basket from the cooking pot.

As is the case with boiled seafood, steamed seafood should be cooled soon after cooking unless it is to be eaten immediately. Otherwise, the seafood will continue cooking and could become tough. (See Boiling, above.)

Poaching

Like steaming, poaching is both similar to yet different from boiling. In poaching, seafood is placed in shallow skillet or frying pan and cooked in just nough boiling liquid to cover the seafood. Thin, ragile fish fillets like trout or drum and shucked mollusk meats, as well as peeled crustacean tail meat are good candidates for poaching. Poaching is n excellent way to transfer flavors from the poachng liquid to the seafood.

If vegetables are to be part of the recipe, place a mall amount of vegetable oil or non-stick spray in skillet and heat. Add the vegetables to the skillet nd saute them until just done, but still crunchy. Add seasonings and about ½ inch of liquid. (The oaching liquid could include combinations of any f the following: water, white wine, fish stock, or emon juice.) Bring the liquid to a boil, add the eafood, reduce heat, cover, and simmer until the eafood is done. Because of their fragility, most hin fish fillets need not (or cannot) be turned during oaching. Mollusk meats and crustacean tail meats re more durable.

Because most of the varieties of seafood that re poached are either thin or small in size, they will ook in 8 to 10 minutes. Fish is done when the flesh flakes easily when tested with a fork; the inside f completely cooked crustacean meat turns opaque. Mollusk meats become plump and rounded, and the dges begin to curl when they are done.

Sauteeing

Sauteeing is a quick, high-temperature cooking method and is very similar to poaching, except that he poaching liquid is omitted. Mollusk meats, eeled crustacean tail meat, and chunks of more meat-like varieties of fish (like cobia, dolphin, mackrels, shark, soft-shell crabs, swordfish, and tuna) end themselves readily to sauteeing. Fragile fish filets do not hold up very well during sauteeing.

To saute seafood, place a small amount of vegtable oil or non-stick spray in a skillet. While the killet is preheating, pat seafood dry with paper owels. Season seafood to taste. Lightly dust seafood with flour if desired. Add seafood to skillet and ook over a medium flame. It is best to continuously tir, agitate, or "shuffle" the meat during sauteeing to revent sticking. It is also advisable to turn seafood several times during the cooking process to prevent scorching and uneven cooking. When seafood is done, remove from heat and serve immediately.

In general, sauteeing seafood takes a relatively short time, with the exception of large soft-shell crabs. Test for doneness in sauteed seafood the same way as in poached seafoods (page 10).

Added Flavors

• Fresh or dried herbs like thyme, rosemary, dill, basil, and oregano enhance the flavor of seafood. Fresh herbs can be added directly to seafood recipes. Dried herbs are more effective if they are first soaked in water, drained, and patted dry before adding to seafood.

• Marinades can be as easy as a bottled salad dressing or a homemade combination of oil with vinegar or fresh lemon or lime juice and your choice of seasonings. Save extra marinade to brush on seafood as it cooks.

• Sauces should enhance—not mask—the flavor of seafood. Match the flavor level of the sauce to the seafood being cooked. Baste with a mixture of equal parts of lemon juice and butter or margarine.

Other, General Pointers

• Be sure seafood is completely cleaned (washed, scaled, eviscerated, peeled, etc.) before cooking.

• Make sure live mollusks and crustaceans are alive. Remove mud and debris from mollusk shells by scrubbing with a brush under running water. Thoroughly rinse live crabs with a garden hose or kitchen sink sprayer.

• Pat seafood dry with paper towels before applying oil.

References

This pamphlet was compiled using information condensed from the following publications. Consult them for additional information about seafood cooking, nutrition, preparation, preservation, safety, and storage.

Perkins, B. E. 1987. Circular CRD-40, "Saving Your Catch." Alabama Cooperative Extension Service. MASGP-87-001.

Perkins, B. E. 1989. Circular CRD-48, "Alabama Seafood Facts." Alabama Cooperative Extension Service. MASGP-89-006.

Perkins, B. E. 1990. Circular CRD-53, "Preparation and Preservation of Alabama Seafood." Alabama Cooperative Extension Service. MASGP-90-005.

Perkins, B. E. 1991. Circular ANR-578, "Seafood Safety." Alabama Cooperative Extension Service. MASGP-91-003.

Perkins, B. E. 1992. Circular ANR-758, "Grilling Alabama Seafood." Alabama Cooperative Extension Service. MASGP-92-004.

Perkins, B. E. 1992. Circular ANR-766, "Smoking Alabama Seafood." Alabama Cooperative Extension Service. MASGP-92-005.

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