

Dry-Heat Cooking Methods

In dry-heat cooking, food is cooked either by direct heat, like on a grill, or by indirect heat in a closed environment, like in an oven. Some food may lose moisture and become dry when cooked using dry heat. Any food prepared using dry heat must be naturally tender or prepared by adding moisture. There are several ways to add moisture:

- **Barding:** Wrapping an item (usually a naturally lean piece of meat, such as a pork tenderloin) with strips of fat before cooking to baste the meat, making it more moist
- **Larding:** Inserting long, thin strips of fat into a large, naturally lean piece of meat with a special needle before cooking to baste the meat from the inside
- **Marinating:** Soaking an item in a combination of wet and dry ingredients to provide flavor and moisture

Dry-heat cooking methods without fat include the following:

- Broiling
- Grilling
- Roasting
- Baking

Another way to prepare food is to use dry-heat cooking methods with fat and oil. These methods include the following:

- Sautéing
- Pan-frying
- Stir-frying
- Deep-frying

Broiling

Broiling is a rapid cooking method that uses high heat from a source located above the food. Broiled food becomes browned on the top. Foods that can be broiled include tender cuts of meat, young poultry, fish, and some fruits and vegetables.

HOW A BRINE WORKS

Brines moisturize and tenderize roast meats. At first, salt draws moisture from meat tissues. But some of the brine is also absorbed into the meat. When the salt of the brine interacts with the proteins, it dissolves some of the protein structure, and this has a tenderizing effect on the meat. Also, because the salt interacts with the proteins, the capacity of the meat to hold moisture is increased. The weight of the raw brined meat is about 10 percent greater than the weight of the meat before brining.

A brine consists primarily of salt dissolved in water. Because of the harsh taste a high salt concentration can give to meats, chefs usually add sugar to the brine as well to counteract the strong salt flavor. In addition, herbs and aromatics may be added to the brine, although these have only a mild flavoring effect.

Salt concentration in brines ranges from 3 to 6 percent. The formula given in the procedure makes a concentration of 3 percent, so you could double the salt (and sugar) if desired.

Because of the salt and sugar concentration in the meat, pan drippings may not be usable for deglazing. Also, the sugar may burn to the bottom of the pan, so you may want to put a little water in the bottom of the roasting pan.

Preparation for Frying

Most foods to be deep-fried, with the major exception of potatoes, are first given a protective coating of breading or batter. This coating serves four purposes:

1. It helps retain moisture and flavor in the product.
2. It protects the fat against the moisture and salt in the food, which would speed the deterioration of the frying fat.
3. It protects the food from absorbing too much fat.
4. It gives crispness, flavor, and good appearance to the product.

Breading

Breading means coating a product with bread crumbs or other crumbs or meal before deep-frying, pan-frying, or sautéing. The most widely used method for applying these coatings is called the *Standard Breading Procedure*.

THE THREE STAGES OF THE STANDARD BREADING PROCEDURE

1. Flour.

Helps the breading stick to the product.

2. Egg wash.

A mixture of eggs and a liquid, usually milk or water. More eggs give greater binding power but increase the cost. A small quantity of oil is occasionally added to the egg wash.

3. Crumbs.

Combine with the egg wash to create a crisp, golden coating when fried. Fine, dry bread crumbs are most often used and give good results. Also popular are Japanese-style dry bread crumbs called *panko* (Japanese for "bread crumbs"). These coarser crumbs give a pleasing texture to fried items. Other products used are fresh bread crumbs, crushed corn flakes or other cereal, cracker meal, and cornmeal.

For small items like scallops and oysters, breading may be done with the aid of a series of wire baskets placed in the flour, egg wash, and crumbs, instead of by hand. The procedure is the same except the baskets are used to lift and shake small quantities of the product and to transfer them to the next basket.

To keep one hand dry during breading, use your right hand (if you are right-handed; if left-handed, reverse the procedure) only for handling the flour and crumbs. Use your other hand for handling the product when it is wet. In order to keep your dry hand dry, never handle a wet product with that hand. For example, to complete the breading of an item that has been dipped in egg wash, place it in the pan of crumbs and push more crumbs over the top of the item, as shown in Figure 7.27, and then pat them down, so all sides of the item are covered in dry crumbs before you pick it up.



Figure 7.27 To keep your dry hand dry, push crumbs over the top of egg-washed items in the crumb pan before touching them.

Procedure for Making Bread Crumbs

1. For fresh bread crumbs, use bread that is one or two days old. If the bread is fresh, its moisture content will make it difficult to process into crumbs without making gummy wads of bread. For dry bread crumbs, lightly toast the bread in a warm oven until the bread is dry but not browned. Do not use stale bread, which has an off flavor.
2. Trim off crusts to make crumbs of a uniform light color.
3. Cut or tear the bread into smaller pieces.
4. Depending on the quantity, place the pieces in a food processor or a vertical cutter/mixer. Process until the crumbs are of the desired fineness.
5. For dry bread crumbs of uniform size, pass the processed crumbs through a sieve (also called a *tamis*). See page 60.

Procedure for Proper Breading

Figure 7.28 illustrates a station setup for the Standard Breading Procedure.

1. Dry the product to get a thin, even coating of flour.
2. Season the product—or, for greater efficiency, season the flour (step 3). Do not season the crumbs. The presence of salt in contact with the frying fat breaks down the fat and shortens its life.
3. Dip the product in flour to coat evenly. Shake off excess.
4. Dip in egg wash to coat completely. Remove. Let excess drain off so the crumb coating will be even.
5. Dip in bread crumbs. Cover with crumbs and press them gently onto product. Make sure it is coated completely. Remove. Carefully shake off excess.
6. Fry immediately, or hold for service.
7. To hold for later service, place the breaded items in a single layer on a pan or rack and refrigerate. Do not hold very moist items, such as raw clams or oysters. The breading will quickly become soggy.
8. Strain the egg wash and sift the flour and crumbs as often as necessary to remove lumps.

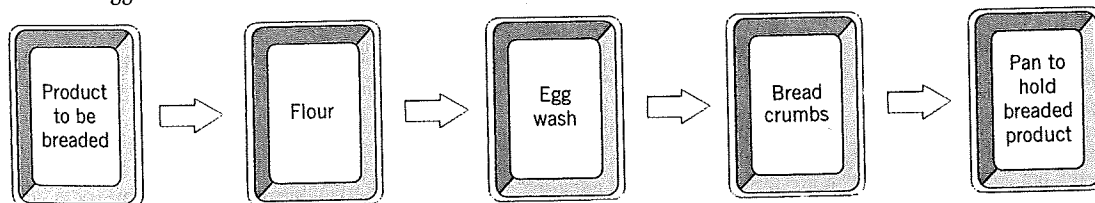


Figure 7.28 Setup of station for Standard Breading Procedure. Right-handed cooks work from left to right. Left-handed cooks work from right to left, with order of pans reversed, as well.

Dredging with Flour

PURPOSE

The purpose of dredging is to give a thin, even coating of flour to a product.

Meats to be sautéed or pan-fried are often dredged with flour to give them an even, brown color and to prevent sticking.

Vegetables, such as sticks of zucchini, are sometimes coated only in flour before deep-frying to give them a light golden color and a very thin coating.

PROCEDURE

Follow steps 1 to 3 of the Standard Breading Procedure above.

Batters

Batters are semiliquid mixtures containing flour or other starch. They are used in deep-frying to give a crisp, flavorful, golden brown coating. There are many formulas and variations for batters.

1. Many liquids are used, including milk, water, and beer.
2. Eggs may or may not be used.
3. Thicker batters make thicker coatings. Too thick a batter makes a heavy, unpalatable coating.
4. Leavenings are frequently used to give a lighter product. These may be:
 - Baking powder
 - Beaten egg whites
 - Carbonation from beer or seltzer used in the batter

Two recipes for basic, typical batters are given in the recipe for deep-fried Onion Rings (p. 599), and the recipe for Fish and Chips (p. 495). These batters may be used on a wide variety of products. In addition, a recipe for tempura batter is on page 498.

Handling Convenience Foods

Convenience foods play an increasingly prominent role in the food-service industry. Their use has become so important that no student of professional cooking can afford to be without knowledge of them.

Guidelines for Handling Convenience Foods

1. Handle with the same care you give fresh, raw ingredients.

Most loss of quality in convenience foods comes from assuming they are damageproof and can be treated haphazardly.

2. Examine as soon as received.

Particularly, check frozen foods—with a thermometer—to make sure they did not thaw in transit. Put away at once.

3. Store properly.

Frozen foods must be held at 0°F (−18°C) or lower. Check your freezer with a thermometer regularly. Refrigerated foods must stay chilled, below 41°F (5°C), to slow spoilage. Shelf-stable foods (dry products, canned goods, etc.) are shelf-stable only when stored properly in a cool, dry place, tightly sealed.

4. Know the shelf life of each product.

Nothing keeps forever, not even convenience foods. (Some, like peeled potatoes, are even more perishable than unprocessed ingredients.) Rotate stock according to the first in, first out principle. Don't stock more than necessary.

5. Defrost frozen foods properly.

Ideally, defrost in a tempering box set at 28° to 30°F (−2° to −1°C) or, lacking that, in the refrigerator at 41°F (5°C) or lower. This takes planning and timing, because large items take several days to thaw.

If you are short of time, the second-best way to defrost foods is under cold running water, in the original wrapper.

Never defrost at room temperature or in warm water. The high temperatures encourage bacterial growth and spoilage.

Do not refreeze thawed foods. Quality will greatly deteriorate.

Certain foods, like frozen French fries and some individual-portion prepared entrées, are designed to be cooked without thawing.

6. Know how and to what extent the product has been prepared.

Partially cooked foods need less heating in final preparation than do raw foods. Some cooks prepare frozen, cooked crab legs, for example, as though they were raw, but by the time the customer receives them, they are overcooked, dry, and tasteless. Frozen vegetables, for a second example, have been blanched and often need only to be heated briefly.

Manufacturers are happy to give full directions and serving suggestions for their products. At least you should read the package directions.

7. Use proper cooking methods.

Be flexible. Much modern equipment is designed especially for convenience foods. Don't restrict yourself to conventional ranges and ovens if compartment steamers, convection ovens, or microwave ovens might do a better job more efficiently.

8. Treat convenience foods as though you, not the manufacturer, did the pre-preparation.

Make the most of your opportunity to use creativity and to serve the best quality you can. Your final preparation, plating, and garnish should be as careful as though you made the dish from scratch.

General Procedures for Sautéing and Pan-Frying Meats

The following procedures are presented together so you can compare them. Keep in mind that these are the two extremes and that many recipes require a procedure that falls somewhere between the two.

The procedure for pan-frying applies to griddling as well, although only a small amount of fat can be used on a griddle.

Sautéing

1. Collect all equipment and food supplies.
2. Prepare meats as required. This may include dredging with flour.
3. Heat a small amount of fat in a sauté pan until very hot.
4. Add the meat to the pan. Do not overcrowd the pan.
5. Brown the meat on all sides, flipping or tossing it in the pan as necessary so it cooks evenly.
6. Remove the meat from the pan. Drain excess fat, if any.
7. Add any sauce ingredients to be sautéed, such as shallots or mushrooms, as indicated in the recipe. Sauté them as necessary.
8. Add liquid for deglazing, such as wine or stock. Simmer while swirling and scraping the pan to release food particles on the bottom so they can dissolve in the liquid. Reduce the liquid.
9. Add a prepared sauce or other sauce ingredients, and finish the sauce as indicated in the recipe.
10. Serve the meat with the sauce, or return the meat to the sauce in the pan to reheat briefly and coat it with the sauce. Do not let the meat cook in the sauce. Serve.

Pan-Frying

1. Collect all equipment and food supplies.
2. Prepare meats as required. This may include breading or dredging with flour.
3. Heat a moderate amount of fat in a sauté pan or skillet until hot.
4. Add the meat to the pan.
5. Brown the meat on one side. Turn it with a spatula and brown the other side. Larger pieces may need to be finished at reduced heat after browning. If required, they may finish cooking, uncovered, in the oven.
6. Serve immediately.

Basic Procedure for Stir-Frying

1. Heat a wok or sauté pan over high heat until very hot.
2. Add a small quantity of oil and let it heat.
3. Add seasonings for flavoring the oil—one or more of the following: salt, garlic, ginger root, scallions.
4. If meat, poultry, or seafood items are part of the dish, add them at this point. As when sautéing, do not overload the pan. Leave the food pieces untouched for a few moments so they begin to brown properly. Then stir and toss them with a spatula so they sear and cook evenly.
5. If any liquid seasoning for the meat, such as soy sauce, is used, add it now, but only in small quantities, so the meat continues to fry and does not start to simmer or stew.
6. Remove the meat from the pan or leave it in, depending on the recipe. If a small quantity of quick-cooking vegetables is used, the meat can sometimes be left in the pan and the vegetables cooked with it. Otherwise, remove the meat when it is almost done and keep it on the side while cooking the vegetables.
7. Repeat steps 2 and 3 if necessary.
8. Add the vegetables to the pan and stir-fry. If more than one vegetable is used, add the longer-cooking ones first and the quicker-cooking ones last.
9. Some dishes are dry-fried, meaning prepared without liquid or sauce. In this case, simply return the meat item, if any, to the pan to reheat with the vegetables, then serve. Otherwise, proceed to the next step.
10. Add liquid ingredients, such as stock or water, and continue to cook and stir until the vegetables are almost cooked.
11. Add the meat item, which was removed in step 6, to the pan to reheat.
12. Optional but widely used step: Add a mixture of cornstarch and water to the pan and cook until lightly thickened.
13. Serve at once.

Deep-Frying

1. The procedure for deep-frying is like that for pan-frying, except the item doesn't have to be turned because it is submerged in the hot fat. Review page 75 for deep-frying instructions.
2. Pieces from small chickens (under 2½ lb/1 kg) are best for deep-frying. Larger pieces require such a long cooking time that the surface may brown too much. If necessary, fried items may be finished in the oven.
3. Fry chicken at 325° to 350°F (160° to 175°C) for even cooking.

Pan-Fried Chicken

PORTIONS: 24 PORTION SIZE: ½ CHICKEN
48 ¼ CHICKEN

U.S.	METRIC	INGREDIENTS
12	12	Chickens, 2½ lb (1.1 kg) each
1 lb	450 g	Flour
5 tsp	25 mL	Salt
1 tsp	5 mL	White pepper
as needed	as needed	Oil

Per ½ chicken: Calories, 820; Protein, 75 g; Fat, 51 g (57% cal.); Cholesterol, 235 mg; Carbohydrates, 11 g; Fiber, 0 g; Sodium, 580 mg.

VARIATIONS

For slightly crustier, browner chicken, dip in milk before dredging in flour.

Alternative Method, Quantity Service: Brown chickens in hot oil as in basic recipe. Place on sheet pans or in baking pans skin side up, and finish cooking in a 350°F (175°C) oven.

Country-Style Fried Chicken

Fry chickens as in basic recipe. For 24 portions: Pour all but 4 oz (125 g) fat from the pans. Add 4 oz (125 g) flour and make a blond roux. Stir in 2½ qt (2.5 L) milk and bring to a boil. Stir constantly as the gravy thickens. Simmer a few minutes to eliminate all raw starch taste, and season with salt and white pepper. Adjust the consistency with stock, water, or additional milk if necessary. Strain. Serve the chicken with gravy and mashed potatoes.

PROCEDURE

1. Cut chickens into 8 pieces, as shown in **Figure 12.5**.
2. Place the flour in a small hotel pan and season with salt and pepper.
3. Pour about ¼ in. (0.5 cm) oil into enough heavy iron skillets to hold all the chicken pieces in a single layer. Heat over moderately high heat.
4. Dredge the chicken pieces in the seasoned flour and shake off excess.
5. Place the pieces skin side down in the hot oil. Let the pieces fall away from you to avoid splashing hot oil on yourself.
6. Fry the chicken until golden brown on the bottom. Turn the pieces with tongs and brown the other side.
7. Lower the heat slightly to avoid overbrowning. Continue to cook the chickens, turning once or twice more, until cooked through. Breast meat cooks faster than leg meat—remove it when it is done. Total cooking time will be 20–40 minutes, depending on the size of the chickens and the temperature of the fat.
8. Remove the chicken from the pan and drain well. Place on hot dinner plates or hold for service in counter pans. Do not cover pans or hold too long, or chicken will lose its crispness.

Sautéing, Pan-Frying, and Deep-Frying

Because chicken and turkey are lean, tender meats, cooking in fat is an appropriate and popular way to prepare them. The procedures for sautéing and pan-frying meats apply to chicken as well. Also, please note the following guidelines that apply particularly to poultry and game bird items.

Tender game birds and specialty poultry items may also be cooked by sautéing or pan-frying. For most game birds, only the breasts are usually cooked by these methods. The legs are small and have more connective tissue, so they require longer cooking. They are often braised or roasted until tender and served as garnish for the breast, either bone-in or as boneless meat.

For lean items, such as squab, partridge, and quail, the breasts are best if not cooked well done but rather kept somewhat pink inside, or even rare, to preserve moisture. Breast of pheasant and guinea may also be served with a little pink in the interior, although because this meat is so similar to the white meat of chicken, many customers may prefer it well done.

Dark red poultry, such as ostrich and emu steaks and breast of duck, are also lean and most often served medium to medium rare. Remember, however, that the minimum safe temperature for ostrich and emu is 155°F (68°C). Refer to page 30. Duck breasts present a special case for pan-frying because of the heavy layer of fat between the skin and the meat. Pan-fried duck breasts are started skin side down and cooked until much of the fat is rendered and the skin is crisp. This takes several minutes, or most of the cooking time. To finish, they are turned over and cooked skin side up for just a few moments, until they reach the desired doneness.

Sautéing

1. Boneless chicken breasts, thin slices of turkey breast, and other quick-cooking items are ideal for sautéing.
2. Larger items, such as bone-in chicken cut into eighths, are harder to cook to doneness by sautéing because they need longer cooking times. Such items are often browned by sautéing and then finished by another method, such as baking or braising. Breasts of game birds, on the other hand, may be cooked rare or medium and can thus be easily cooked from start to finish on the stovetop.
3. Classical cuisine features preparations for chicken called *sautés*, many of which are actually made by braising. The basic procedure for sautéing meats is used, except the chicken is only partially cooked by sautéing. It is then finished by simmering briefly in the sauce made by deglazing the pan. Recipes for this kind of preparation are included under "Braising," page 427.

Pan-Frying

1. Pan-fried chicken is usually breaded or floured before cooking for even browning and crispness.
2. About ¼ inch (½ cm) or more of fat is needed in the pan to pan-fry chicken.
3. The side that will face up on the plate should be browned first for best appearance. This is called the *presentation side*. For chicken pieces, it is usually the skin side.
4. After browning on all sides over moderately high heat, lower the heat so the chicken cooks to doneness without overbrowning. Pan-fried chicken takes 30 to 45 minutes to cook.