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SAUCES

Like stocks, sauces have lost some of the importance they once had in commercial kitchens, especially in more casual dining establishments. Some of this decline is due to changes in eating habits and to increased labor costs. However, much of the change is due to misunderstanding. How many times have you heard someone say, “I don’t go for all those sauces all over everything. I like good, simple food.” No doubt this person puts ketchup—a sweetened tomato sauce—on hamburgers, gravy on mashed potatoes, and tartar sauce on fried fish.

The misunderstandings arise from poorly made sauces. No one likes thick, pasty cream sauces on vegetables or oversalted but otherwise flavorless brown sauces gumming up their meat. But just because some cooks make bad sauces is no reason to reject all sauce cookery.

In fact, many chefs believe good sauces are the pinnacle of all cooking, both in the skill they require and in the interest and excitement they can give to food. Very often, the most memorable part of a really fine meal is the sauce that enhances the meat or fish.

No matter where you work, sauce-making techniques are basic skills you will need in all your cooking. Croquettes, soufflés, and mousses have sauces as their base, nearly all braised foods are served with sauces made of their cooking liquids, and basic pan gravies, favorites everywhere, are made with the same techniques as the classic sauces.

AFTER READING THIS CHAPTER, YOU SHOULD BE ABLE TO

1. Explain the structure of sauces, including the production and use of roux and other thickening agents and finishing procedures.
2. Describe the composition of the five leading sauces—béchamel, velouté, brown or espagnole, tomato, and hollandaise—and the small sauces made from them.
3. Describe how to produce the major sauces used in food service.



SAUCES AS SEASONINGS

The word **sauce** is derived from Latin *sal-sus*, meaning “salted.” So you can see that from the earliest days of cooking in Europe, sauces were seen as ways to season and flavor other foods.

Interestingly, the word **salad** comes from the same origin, meaning “salted.” Salads were seen as highly seasoned mixtures of foods.

SAUCE STRUCTURE

A **sauce** may be defined as a flavorful liquid, usually thickened, used to season, flavor, and enhance other foods.

A sauce adds the following qualities to foods:

- Moistness
- Flavor
- Richness
- Appearance (color and shine)
- Interest and appetite appeal

A sauce works like a seasoning. It enhances and accents the flavor of the food; it should not dominate or hide the food. A good cook knows that sauces are as valuable as salt and pepper. A simple grilled steak is made even better when it has an added touch, something as simple as a slice of seasoned butter melting on it or as refined as a spoonful of béarnaise sauce.

BASIC SAUCE COMPONENTS

The major sauces we consider here are made of three kinds of ingredients:

1. A liquid, the body of the sauce
2. A thickening agent
3. Additional seasoning and flavoring ingredients

To understand Sauce-making, you must first learn how to prepare these components and then how to combine them into finished sauces.

Liquid

A liquid ingredient provides the body or base of most sauces. Most classic sauces are built on one of five liquids or bases. The resulting sauces are called **leading sauces** or **mother sauces**.

- White stock (chicken, veal, or fish)—for velouté sauces
- Brown stock—for brown sauce or espagnole (ess pahn yohl)
- Milk—for béchamel
- Tomato plus stock—for tomato sauce
- Clarified butter—for hollandaise

The most frequently used sauces are based on stock. The quality of these sauces depends on the stock-making skills you learned in Chapter 8.

Thickening Agents

A sauce must be thick enough to cling lightly to the food. Otherwise, it will just run off and lie in a puddle in the plate. This doesn't mean it should be heavy and pasty. Chefs use the term **nappé** (nap pay; from the French *napper*, meaning “to top”) to describe the texture of a sauce that has the right texture to coat foods.

An unthickened sauce doesn't effectively add flavor to foods because it simply runs off them. But making a sauce too thick also decreases its flavor, for several reasons. First, the thickener dilutes the flavor because it adds bulk to the sauce without adding any flavor of its own. Second, it slows down the flow of the sauce so that it doesn't reach all the taste buds as well. And third, the thickener actually binds up or absorbs some of the flavor compounds so we can't sense them. So it is important to achieve just the right nappé texture when thickening sauces.

Starches are still the most commonly used thickening agents, although they are used less often than in the past. We discuss starches and other thickening agents in detail below.

Other Flavoring Ingredients

Although the liquid that makes up the bulk of the sauce provides the basic flavor, other ingredients are added to make variations on the basic themes and to give a finished character to the sauces.

Adding specified flavoring ingredients to basic sauces is the key to the catalog of classic sauces. Most of the hundreds of sauces listed in the standard repertoires are made by adding one or more flavoring ingredients to one of the five basic sauces or leading sauces.

As in all of cooking, sauce-making is largely a matter of learning a few building blocks and then building with them.

THE SCIENCE OF THICKENING AGENTS

Most sauces consist of water with thickening ingredients mixed or dispersed into it. Water is said to be the *continuous phase* in a sauce, while the thickening components are the *dispersed phase*. You have already encountered these terms in the discussion of emulsions in Chapter 6, and reviewing that discussion may help you understand the structure of sauces.

Water by itself flows easily, and we would not describe it as having any thickness. Water molecules contain only three atoms and thus are very tiny, so they tumble over one another easily and thus flow quickly. If large particles are mixed into the water, they get in the way of the water molecules, and the water doesn't flow as easily. In other words, the particles of the dispersed phase slow down the flow of the water molecules (the continuous phase).

In any given thickened liquid, the dispersed particles can be in one or more of the following forms:

- Solid particles, such as pieces of puréed foods
- Long molecules, such as gelatin or starches
- Droplets of liquid, such as melted butter in hollandaise sauce
- Air bubbles, in foams

All of these categories thicken water by interfering with the flow of the water molecules.

Most sauces contain more than one of these types of thickeners. For example, a classic *Suprême Sauce* is thickened primarily by starch molecules, but it also contains gelatin molecules, droplets of melted butterfat, and solid particles of milk solids to interfere with the flow of the water from the white stock that forms its base. Similarly, hollandaise is thick mostly because of the large proportion of butter droplets held in emulsion, but it also contains air bubbles whipped in during the emulsifying process.

Now that we have a general understanding of how thickeners work, we will look at each of the basic sauce thickeners, beginning with a general discussion of starches, followed by an explanation most important starch thickener in the classical kitchen, roux.

STARCHES AS THICKENERS

1. Starches are the most common and most useful thickeners for sauce making. Flour is the principal starch used. Others available to the chef include cornstarch, arrowroot, waxy maize, instant or pregelatinized starch, bread crumbs, and other vegetable and grain products, like potato starch and rice flour. These are discussed later.
2. Starches thicken by **gelatinization**, which, as discussed in Chapter 6, is the process by which starch granules absorb water and swell to many times their original size, and starch molecules uncoil into long threads.

Another important point made in Chapter 6 is that acids inhibit gelatinization. Whenever possible, do not add acid ingredients to sauces until the starch has fully gelatinized.

3. Starch granules must be separated before heating in liquid to avoid lumping. If granules are not separated, lumping occurs because the starch on the outside of the lump quickly gelatinizes into a coating that prevents the liquid from reaching the starch inside.

Starch granules are separated in two ways:

- **Mixing the starch with fat.** This is the principle of the roux, which we discuss now, and of *beurre manié*, which is discussed in the next section.
- **Mixing the starch with a cold liquid.** This is the principle used for starches such as cornstarch. It can also be used with flour, but, as we note later, the result is an inferior sauce. A mixture of raw starch and cold liquid is called a **slurry**.

ROUX

Roux (roo) is a cooked mixture of equal parts by weight of fat and flour.

Fat

The cooking fats employed for making roux are as follows:

Clarified butter is preferred for the finest sauces because of its flavor. The butter is clarified (p. 196) because the moisture content of whole butter tends to gelatinize some of the starch and makes the roux harder to work.

Margarine is sometimes used in place of butter because of its lower cost. However, its flavor is inferior to butter, so it does not make as fine a sauce. The quality of margarine varies from brand to brand.

Animal fats, such as chicken fat, beef drippings, and lard, are used when their flavor is appropriate to the sauce. Thus, chicken fat can be used for chicken velouté, and beef drippings can be used for beef gravy. When properly used, animal fats can enhance the flavor of a sauce.

Vegetable oil and shortening can be used for roux but, because they add no flavor, they are not preferred. Solid shortening also has the disadvantage of having a high melting point, which gives it an unpleasant fuzzy feeling in the mouth. It is best reserved for the bakeshop and the fry kettle.

Today, roux-thickened sauces are often condemned for health reasons because of the fat content of the roux. It should be remembered, however, that when a roux-bound velouté or brown sauce is properly made, most of the fat is released and skimmed off before the sauce is served.

Flour

The thickening power of flour depends, in part, on its starch content. Bread flour has less starch and more protein than cake flour. Eight parts (such as ounces or grams) of cake flour has the same thickening power as 10 parts of bread flour.

Bread flour frequently is used for general cooking purposes in commercial kitchens even though it has less thickening power than cake flour or pastry flour. Most sauce recipes in this book, as well as in other books, are based on bread flour or on all-purpose flour, which has similar thickening power. The proportions of roux to liquid must be adjusted if another flour is used.

Flour is sometimes browned dry in the oven for use in brown roux. A heavily browned flour has only one-third the thickening power of unbrowned flour.

In addition to starch, wheat flour contains proteins and other components. As a roux-thickened sauce is simmered, these components rise to the surface as scum. They then can be skimmed off. Sauces are generally simmered for a time even after the starch is completely gelatinized so these “impurities” can be cooked off. This improves the texture, gloss, and clarity of a sauce. When a high-protein flour such as bread flour is used in a roux, the sauce must be cooked longer and skimmed more often to achieve good clarity.

Sauces made with wheat flour do not freeze well because some of the starch breaks down when frozen, reducing its thickening power.

Ingredient Proportions

The traditional proportions of fat and flour in a roux is **equal parts by weight** or, in other words, 50 percent fat and 50 percent flour. Many chefs use a lower proportion of fat. There must be enough fat to coat all the starch granules, but not too much. A good roux is stiff, not runny or pourable. A roux with too much fat is called a *slack roux*. Excess fat increases the cost of the roux unnecessarily. The excess fat rises to the top of the sauce, where it is either skimmed off or makes the sauce look greasy.

Escoffier called for less fat than the standard proportions given above: 8 parts fat to 9 parts flour (47 percent fat and 53 percent flour). Some chefs use an even lower proportion of fat, as little as 2 parts fat to 3 parts flour (40 percent fat and 60 percent flour). Remember, however, that there must be enough fat to coat all the particles of flour. A very stiff roux, when used skillfully, is effective, but it is more difficult to incorporate into a liquid. A slacker roux is easier to use until you have practiced your skills. In any case, follow the recommendations of your instructor.

Preparing Roux

A roux must be cooked so the finished sauce does not have the raw, starchy taste of flour. The three kinds of roux differ in how much they are cooked.

White roux is cooked for just a few minutes, just enough to cook out the raw taste. Cooking is stopped as soon as the roux has a frothy, chalky, slightly gritty appearance, before it has begun to color. White roux is used for béchamel and other white sauces based on milk. In spite of its name, white roux is actually a pale yellow because it is made from butter and (usually) unbleached flour. Figure 9.1 illustrates the production of white roux.

Blond roux, or pale roux, is cooked a little longer, just until the roux begins to change to a slightly darker color. Cooking must then be stopped. Blond roux is used for veloutés, or sauces based on white stocks. The sauces have a pale ivory color.

Brown roux is cooked until it takes on a light brown color and a nutty aroma. Cooking must take place over low heat so the roux browns evenly without scorching. For a deeper brown roux, the flour may be browned in an oven before adding it to the fat. A heavily browned roux has only about one-third the thickening power of white roux, but it contributes flavor and color to brown sauces.

Operations that depend on roux-based sauces and soups generally make quantities of roux in bulk and keep it available throughout the production period for thickening sauces. If you don't make batches of roux as part of the mise en place, you can also make it as part of the production process for an individual sauce. In the recipes in this section, making the roux is part of the recipe. However, they can easily be changed to use a prepared roux. For example, in the Velouté Sauce recipe (p. 188), omit the flour and use just enough butter to sweat the mirepoix. After adding the stock, beat in 8 ounces (250 g) prepared blond roux.



FIGURE 9.1 Cooking white roux.



White, blond, and brown roux

BASIC PROCEDURE for Making All Roux

1. Melt fat.
2. Add correct amount of flour and stir until fat and flour are thoroughly mixed.
3. Cook to required degree for white, blond, or brown roux.

Cooking is done in a saucepan on top of the stove, and the roux is stirred for even cooking. Use low heat for brown roux, moderate heat for white or blond roux. Large quantities may be baked in an oven. Some restaurants make up batches large enough to last for several days.

Incorporating the Roux

Combining the roux and liquid to obtain a smooth, lump-free sauce is a skill that takes practice to master. It's a good idea to practice the various techniques with water, under the guidance of your instructor, so you understand what you are doing before you start working with valuable stocks.

General Principles

Liquid may be added to roux, or roux may be added to liquid.

The liquid may be hot or cooled, but not ice cold. A very cold liquid will solidify the fat in the roux.

The roux may be warm or cold, but not sizzling hot. Adding a hot liquid to a very hot roux causes spattering and, possibly, lumps.

Most chefs find they get the best results by combining a cold (or cool) liquid with a hot roux, or a hot liquid with a cold roux.

Within these general guidelines, there is room for a number of variations. Two of them are described here. Because successful use of roux is largely a matter of experience, you are advised to profit from your instructors' experience when they demonstrate these techniques or whichever methods they prefer.

Equipment Note: Stainless-steel pans are best for white sauces. Whipping in an aluminum pan makes the sauce gray.

PROCEDURES for Incorporating Roux



METHOD 1: ADDING LIQUID TO ROUX

This method is used when a roux is made up specifically for the sauce, gravy, or soup being prepared.

- 1. Use a heavy saucepot to prevent scorching either the roux or the sauce.
- 2. When the roux is made, remove the pan from the fire for a few minutes to cool slightly.
- 3. Slowly pour in the liquid, all the while beating vigorously with a wire whip to prevent lumps from forming.
If the liquid is hot (such as simmering milk for béchamel sauce), you must beat especially well because the starch will gelatinize quickly.
If the liquid is cool, you can add a quantity of it, beat to dissolve the roux, and then add the remainder of the liquid, hot or cool.
- 4. Bring the liquid to a boil, continuing to beat well. The roux does not reach its full thickening power until near the boiling point.
- 5. Simmer the sauce, stirring from time to time, until all the starchy taste of the flour is cooked out. This takes at least 10 minutes, but the flavor and consistency of the sauce improve if it is cooked longer. Many chefs feel 20 minutes of simmering is a bare minimum. Others cook some sauces for an hour or longer.
- 6. When the sauce is finished, it may be kept hot in a bain-marie or cooled for later use. Either way, it should be covered or have a thin film of butter melted onto the top to prevent a skin from forming.

METHOD 2: ADDING THE ROUX TO THE LIQUID

Many restaurants make up large batches of roux to last all day or even all week. This method may be used in these situations:

- 1. Bring the liquid to a simmer in a heavy pot.
- 2. Add a small quantity of roux and beat vigorously with a whip to break up all lumps.
- 3. Continue to beat small quantities into the simmering liquid until the desired consistency is reached. Remember that roux must simmer for a time to thicken completely, so do not add roux too quickly or you risk overthickening the sauce.
- 4. Continue to simmer until the roux is cooked and no starchy taste remains.
- 5. If the sauce is to simmer a long time, underthicken it because it will thicken as it reduces.

Proportions of Roux to Liquid

Table 9.1 indicates the quantities of roux needed to thicken 1 gallon (4 L) liquid to thin, medium, and thick consistencies.

How thick is a thick sauce? Obviously, these are not precise, scientific terms that can be defined easily. Experience can be the only teacher in this case. This is another good reason to practice with roux and water—so you can, with experience, produce the exact consistency you want.

You also have available the techniques of dilution and reduction to adjust the consistency of a sauce (pp. 182–183), and you will learn how to use *beurre manié* and other thickening agents.

TABLE 9.1 Roux Proportions in Sauces				
Sauce	Butter	Flour	Roux	Liquid
Thin or light	6 oz/190 g	6 oz/190 g	12 oz/375 g	1 gal/4 L
Medium	8 oz/250 g	8 oz/250 g	1 lb/500 g	1 gal/4 L
Thick or heavy	12 oz/375 g	12 oz/375 g	1½ lb/750 g	1 gal/4 L

Other Starches

1. **Beurre manié** (burr mahnyay) is a mixture of equal parts soft, raw butter and flour worked together to form a smooth paste. It is used for quick thickening at the end of cooking to finish a sauce. The raw butter adds flavor and gives a sheen to the sauce when it melts.

To use, drop very small pieces into a simmering sauce and stir with a whip until smooth. Repeat until desired consistency is reached. Simmer just a few minutes more to cook the flour, and then remove from the fire.

2. **Whitewash** is a thin mixture of flour and cold water. Sauces made with whitewash have neither as good a flavor nor as fine a texture as those made with roux. *Whitewash is not recommended for use.*

3. **Cornstarch** produces a sauce that is almost clear, with a glossy texture.

To use, mix with cold water or other cold liquid until smooth. Stir into the hot liquid. Bring to a boil and simmer until the liquid turns clear and there is no starchy taste. Do not boil for a long period or the starch may break down and the liquid become thin. Sauces thickened with cornstarch may thin out if held on the steam table for long periods. Cornstarch is used extensively in sweet sauces to accompany certain meats as well as in desserts and dessert sauces. It has roughly twice the thickening power of flour.

4. **Arrowroot** is used like cornstarch, but it gives an even clearer sauce. Its use is limited by its high cost. Nevertheless, because of its quality, it is the preferred starch for thickening jus lié. It is less likely than cornstarch to break down when heated for a long time.

5. **Waxy maize** is used for sauces that are to be frozen. Flour and other starches break down and lose their thickening power when frozen. Waxy maize does not. It is handled like cornstarch.

6. **Pregelatinized or instant starches** have been cooked, or gelatinized, and then redried. Thus, they can thicken a cold liquid without heating. These starches are rarely used in sauce making but are frequently used in the bakeshop.

7. **Bread crumbs** and other crumbs will thicken a liquid quickly because they have already been cooked, like instant starches. Bread crumbs may be used when smoothness of texture is not desired. A common example is the use of gingersnap crumbs to thicken sauerbraten gravy.

8. **Vegetable purées, ground nuts, and other solids** can also be used. A simple tomato sauce is basically a seasoned vegetable purée. The sauce gets its texture from the thickness of the main ingredient. No additional thickener is needed.

Using this same principle, we can add body or texture to sauces by adding a smooth vegetable purée, or by puréeing mirepoix or other vegetables with the sauce. Other puréed or finely ground ingredients, such as ground nuts, add texture as well as flavor to a sauce.



Cornstarch settles out and must be restirred before use.

FIGURE 9.2 Adding a liaison to a sauce.



(a) Slowly stir a little of the hot sauce (chicken velouté, in this photo) into the mixture of cream and egg yolks to warm it and dilute it.



(b) Stir the tempered liaison back into the remaining sauce.

EGG YOLK AND CREAM LIAISON

In classical cooking, a **liaison** is a mixture of egg yolks and cream, used to enrich and lightly thicken a sauce or other liquid. Egg yolks have the power to thicken a sauce slightly due to the coagulation of egg proteins when heated.

Caution must be used when thickening with egg yolks because of the danger of curdling. This happens when the proteins coagulate too much and separate from the liquid.

Pure egg yolks coagulate at 140°–158°F (60°–70°C). For this reason, they are beaten with heavy cream before use. This raises their curdling temperature to 180°–185°F (82°–85°C). (Note this is still well below the boiling point.) The heavy cream also adds thickness and flavor to the sauce.

PROCEDURE for Using a Liaison

1. Beat together the egg yolks and cream in a stainless-steel bowl. Normal proportions are 2 to 3 parts cream to 1 part egg yolks.
2. Very slowly, add a little of the hot liquid to the liaison, beating constantly. This is known as tempering.
3. Off the heat, add the warmed, diluted liaison to the rest of the sauce, stirring well as you pour it in.
4. Return the sauce to low heat to warm it gently, but do not heat it higher than 180°F (82°C) or it will curdle. Under no circumstances should it boil.
5. Hold for service above 135°F (57°C) for sanitation reasons, but lower than 180°F (82°C).

Egg yolks have only slight thickening power. The liaison is used primarily to give richness of flavor and smoothness of texture to a sauce and only secondarily to give a slight thickening. Also, because of the instability of the egg yolks, it is used only as a finishing technique. Incorporating a liaison is illustrated in Figure 9.2.

EGG YOLK EMULSIFICATION

Egg yolks are used as the thickening agent for hollandaise and related sauces, but in this case the principle is entirely different. The entire procedure is discussed in detail when we get to the hollandaise family of sauces, page 199.

REDUCTION

Simmering a sauce to evaporate some of the water thickens the sauce because only the water evaporates, not the solids. As the solids become more concentrated, the sauce becomes thicker. This technique has always been important for finishing sauces (see the next section). It has become more important as a basic thickening technique as modern chefs use less starch for thickening.

Use caution when reducing stock-based sauces. If such a sauce is reduced too much, the concentration of gelatin may give it a gluey or sticky texture, and it will congeal quickly on plates. Also, the sauce may have a heavily cooked taste that is not as appealing as the fresher, livelier taste of a stock that has not been cooked as much.

SAUCE FINISHING TECHNIQUES

Remember that the three basic elements of a finished sauce are a liquid, a thickening agent, and additional seasoning and flavoring ingredients. We have discussed in detail how liquids are combined with thickening agents to make the basic sauces. In the next section, we look at the way families of sauces are built on these bases by the addition of flavoring ingredients.

Sauces may be modified or added to in a great many ways. Among these methods are a number of basic techniques used over and over again for making sauces. Before we study the structure of the sauce families, it will be helpful to look at these basic finishing techniques.

Reduction

1. Using reduction to concentrate basic flavors.

If we simmer a sauce for a long time, some of the water evaporates. The sauce becomes more concentrated, and the resulting product is more flavorful. This is the same technique used when making glazes from stocks. Some reduction takes place in nearly all sauces, depending on how long they are simmered.

2. Using reduction to adjust textures.

Concentrating a sauce by reduction also thickens it because only the water evaporates, not the roux or other solids. A skilled sauce chef uses both reduction and dilution to give a sauce the precise texture sought. If a sauce is too thin, it may be simmered until it reaches the desired thickness. Or the chef may add a large quantity of stock or other liquid to a thickened sauce to thin it out greatly, then simmer it again until it is reduced to just the right consistency. By doing this, the chef also gives more flavor to the sauce.

3. Using reduction to add new flavors.

If we can add a liquid to a sauce, then reduce it to concentrate it, why can't we reduce a liquid first and then add it to a sauce?

In fact, this is one of the most important techniques in sauce making. We have already mentioned that glazes—reduced stocks—are used to flavor sauces. Reductions of other liquids, especially red and white wines, are used a great deal in this way.

Skip ahead to the recipe for Bordelaise Sauce (p. 193). Note how the red wine is cooked down with shallots, pepper, and herbs to one-fourth its original volume. Not only is the flavor of the wine concentrated but also the flavor from the other spices is extracted. This reduction is a powerful flavoring agent that gives bordelaise sauce its distinctive taste. Reduction allows you to add a great deal of flavor to a sauce without adding much liquid.

Terminology

To reduce by one-half means to cook away one-half of the volume so that half is left.

To reduce by three-fourths means to cook away three-fourths of the volume so that only one-fourth is left.

To reduce au sec (oh seck) means to reduce until dry or nearly dry.

Straining

If you have learned how to use a roux properly, you should be able to make a smooth, lump-free sauce. However, to bring a sauce's texture to perfection, to create the velvety smoothness that is important to a good sauce, straining is necessary. Even a slight graininess that you can't see can still be felt on your tongue.

Straining through a china cap lined with several layers of cheesecloth is effective. Very fine sieves are also available for straining sauces. Straining is usually done before final seasoning.

Deglazing

To **deglaze** means to swirl a liquid in a sauté pan or other pan to dissolve cooked particles of food remaining on the bottom.

This term was used in connection with the production of brown stock and will be encountered again in Chapter 15 in relation to the basic technique of sautéing. It is also an important technique for finishing sauces that accompany sautéed items.

A liquid, such as wine or stock, is used to deglaze a sauté pan and then is reduced by one-half or three-fourths. This reduction, with the added flavor of the pan drippings, is then added to the sauce served with the item.

Enriching with Butter and Cream

1. Liaison.

In addition to being a thickening agent, a liaison of egg yolks and cream is used to finish a sauce by giving it extra richness and smoothness.

2. Heavy cream.

Heavy cream has long been used to give flavor and richness to sauces. The most obvious example is adding cream to basic béchamel sauce to make cream sauce.

3. Butter.

A useful enriching technique, both in classical and in modern cooking, is called *finishing with butter*, or **monter au beurre** (mohn tay oh burr).

To finish a sauce with butter, simply add a few pieces of softened butter to the hot sauce and swirl them in until melted. The sauce should then be served immediately; if it is allowed to stand, the butter may separate.

Finishing a sauce with butter gives it a little extra shine and smoothness as well as adding to it the rich, fresh taste of raw butter.



Monter au buerre

Seasoning

Whether or not a sauce is to be given a final enrichment of liaison, cream, or butter, it must be checked carefully for seasonings before serving. Remember that the last step in any recipe, whether written or not, is "adjust the seasonings."

1. **Salt** is the most important seasoning for sauces. **Lemon juice** is also important. These two seasonings emphasize the flavors already present by stimulating the taste buds. **Cayenne** and **white pepper** are perhaps third and fourth in importance.

2. **Sherry** and **Madeira** are frequently used as final flavorings. These wines are added at the end of cooking (unlike red and white table wines, which must be cooked in a sauce) because their flavors are easily evaporated by heat.



KEY POINTS TO REVIEW

- What five qualities do sauces add to foods?
- What is roux? How is it made? How is it used?
- What is beurre manié? How is it made? How is it used?
- How do you prepare cornstarch to use in thickening liquids?
- What is a liaison? How is it made? How is it used?
- What is the meaning of the expression *monter au beurre*?

SAUCE FAMILIES

LEADING SAUCES

One more time, let’s look at the three basic building blocks of sauce cookery, this time from a slightly different angle.

Liquid + Thickening agent = Leading sauce
Leading sauce + Additional flavorings = Small sauce

We have talked about five basic liquids for sauces: milk, white stock, brown stock, tomato purée (plus stock), and clarified butter. From these we get our five **leading sauces**, also known as *grand sauces* or *mother sauces*, as shown in Chart 9.1.

CHART 9.1 The Leading Sauces		
Liquid	Thickening Agent	Leading Sauce
Milk	+ White roux	= Béchamel sauce
White stock (veal, chicken, fish)	+ White or blond roux	= Velouté (veal velouté, chicken velouté, fish velouté)
Brown stock	+ Brown roux	= Brown sauce or espagnole
Tomato plus stock	+ (Optional roux, see Note)	= Tomato sauce
Butter	+ Egg yolks	= Hollandaise

Note: Roux is not used in all tomato sauces, as tomato purée is naturally thick.

To these five sauces, we add one more: **fond lié** (fone lee ay), meaning “thickened stock.” It is sometimes used in place of espagnole.

Brown stock + Arrowroot or cornstarch = Fond lié

You should understand that these charts are a bit oversimplified. Most of these sauces have a few other ingredients for flavoring. Yet knowing this basic structure is the key to making sauces.

SMALL SAUCES

The major leading sauces—béchamel; veal, chicken, and fish veloutés; and espagnole—are rarely used by themselves as sauces. They are more important as the bases for other sauces, called **small sauces**. Tomato sauce and hollandaise are used as they are, but they, too, are important as bases for small sauces.

Let’s expand our sauce family chart one more generation to include examples of the small sauces in order to show the relationships (Chart 9.2).

Chart 9.2 is probably a little more complicated than you might expect because of the extra arrows and the extra category of secondary leading sauces. These are relatively easy to explain.

1. Secondary leading white sauces.

These three sauces—allemande, suprême, and white wine—are really finished sauces, like other small sauces. But they are used so often to build other small sauces that they rate a special category.

For example, to make suprême sauce, you add cream to chicken velouté.

To make Albufera sauce, you can add meat glaze (glace de viande) to your suprême sauce. Or, if you don’t have suprême sauce, you can make it by adding both cream and meat glaze to chicken velouté. This is why there are two sets of arrows in the chart.

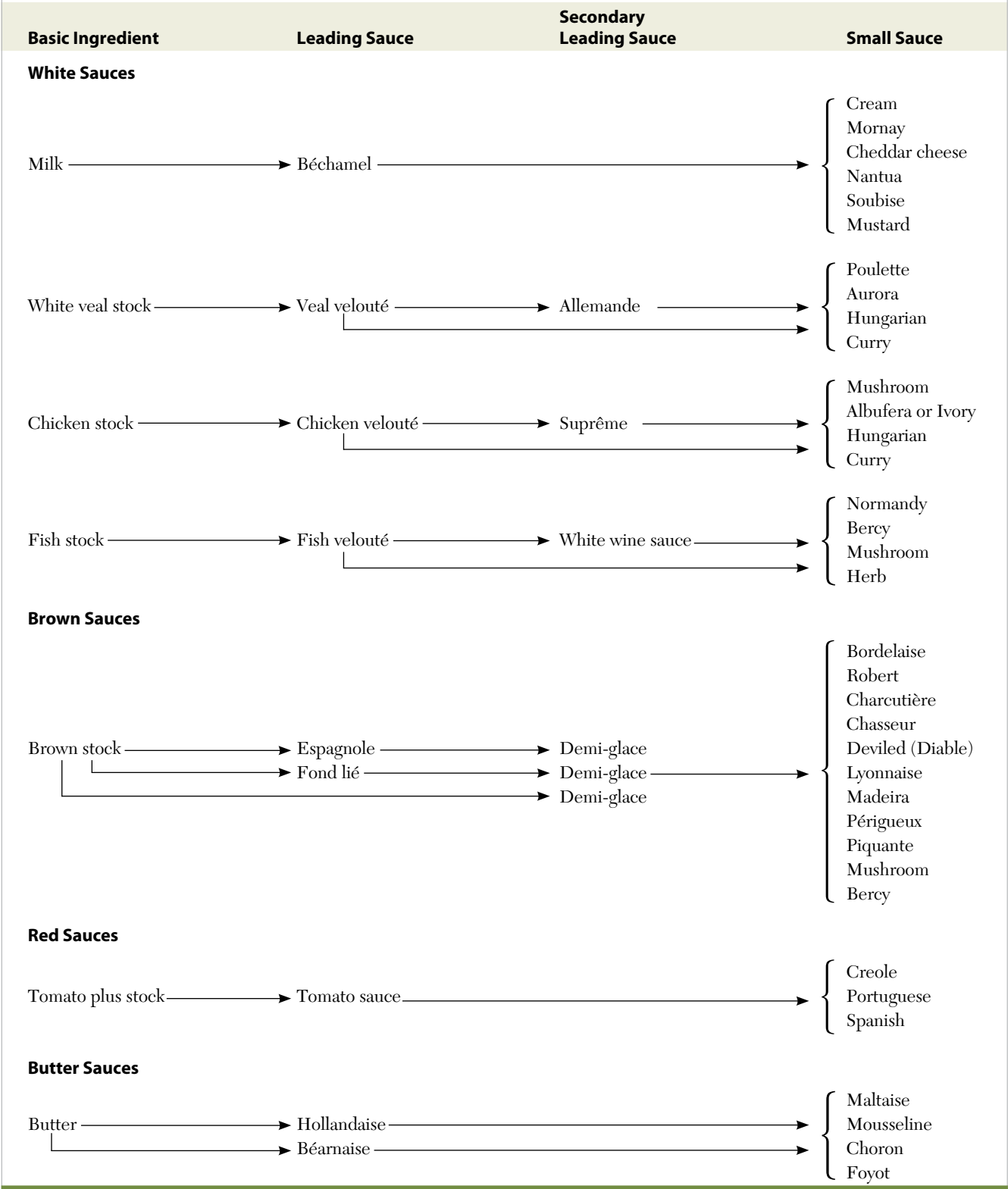
Allemande, suprême, and white wine sauces are also known as the *main small sauces*. If the concept of secondary leading white sauces seems confusing at first, you may simply think of them as small sauces. The important thing is to understand how the sauces are derived.

2. Demi-glaze.

- **Demi-glaze** is defined as half brown sauce plus half brown stock, reduced by half. Most chefs prefer demi-glaze to espagnole as a base for small sauces because of its more concentrated, more fully developed flavor.

Note: It is possible to make small sauces directly from espagnole, but they will not be as fine.

CHART 9.2 The Small Sauces



- Some modern chefs feel espagnole is too heavy for modern tastes and that lighter sauces are required. These chefs prepare demi-glace from fond lié by reducing it with mirepoix, white wine, and seasonings, or by simply reducing by half a flavorful brown stock. In other words, demi-glace may be considered a well-flavored brown stock, reduced by half (demi means “half”), thickened with roux or other starch, or left unthickened (except by natural gelatin).

3. Small sauces listed twice.

Notice, for example, that mushroom sauce is listed under both chicken velouté and fish velouté. This means you should use the stock of the product you are serving with the sauce. Mushroom sauce for chicken should be made with chicken velouté, for fish, with fish velouté. To be even more confusing, mushroom sauce is also made with brown sauce. Bercy sauce is also made as both a white and a brown sauce. These are considered unrelated sauces that happen to have the same name.

4. Hollandaise and béarnaise.

These are essentially two variations of the same kind of sauce, with different flavorings. Each has its own small family of small sauces.

OTHER SAUCES

As usual, not everything fits into one package. Beyond the five major sauce families, a number of other preparations don't follow these basic patterns. We encounter these later in the chapter.

These other preparations include these groups:

Simple and compound butters, including simple browned butter as well as butter combined with flavorings.

Pan gravies, or sauces made with the pan drippings of the meat or poultry they are served with.

Miscellaneous hot sauces, which are not made like any of the five basic sauces. These include such items as raisin sauce (for ham) and sour cream sauce.

Miscellaneous cold sauces include not only sauces for meats, like Cumberland sauce and horseradish sauce, but also vinaigrettes, mayonnaise, and their variations, covered in Chapter 22.

MODERN SAUCES

Most of the emphasis in this chapter is on techniques for producing classic sauces. It is a mistake to argue that these sauces are not important and that modern sauce-making is entirely different. Modern sauces still depend on the basic classical techniques, even though the emphasis may have changed. For example, a chef in a modern kitchen may prepare a sauce for a sautéed meat item at the last minute by deglazing a sauté pan with a little wine, adding some reduced brown stock, and finishing the sauce by swirling in a little butter. As you can see, these are all techniques used in the production of classical sauces. Learning to make classical sauces is an important foundation for learning modern cooking.

While many of the recipes in this book, especially the traditional ones, incorporate sauces prepared in advance, many of the others, especially the more modern ones, incorporate sauces made at the last minute.

SAUCE PRODUCTION

BÉCHAMEL

The classic version of the standard white sauce, **béchamel**, was made with lean veal and herbs and spices simmered with the sauce for an hour or with white veal stock added to the sauce and then reduced. This is rarely done today.

Nevertheless, the plain béchamel often used today—simply milk and roux—can be improved by simmering the sauce with onion and spices. These may be omitted, of course, but the sauce will have less flavor.

Béchamel Sauce

YIELD: 1 GAL (4 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
		Roux:	
8 oz	250 g	Clarified butter	1. Review instructions for making and incorporating roux (pp. 178–180).
8 oz	250 g	Bread flour	2. Heat the butter in a heavy saucepot over low heat. Add the flour and make a white roux (Fig. 9.3a). Cool roux slightly.
1 gal	4 L	Milk	3. Gradually add the milk to the roux, beating constantly.
1	1	Bay leaf, small	4. Bring the sauce to a boil, stirring constantly. Reduce heat to a simmer.
1	1	Small whole onion, peeled	5. Stick the bay leaf to the onion with clove and add to sauce. Simmer at least 15 minutes or, if possible, 30 minutes or more. Stir occasionally while cooking.
1	1	Whole clove	6. Adjust consistency with more hot milk, if necessary.
to taste	to taste	Salt	7. Season very lightly with salt, nutmeg, and white pepper. Spice flavors should not dominate.
to taste	to taste	Nutmeg	8. Strain the sauce through a chinois or through a china cap lined with cheesecloth. Cover or spread melted butter on surface to prevent skin formation. Keep hot in a bain-marie, or cool in a cold-water bath for later use.
to taste	to taste	White pepper	9. Evaluate the finished sauce (p. 202).

Per 1 fl oz (29.57 mL): Calories, 40; Protein, 1 g; Fat, 3 g (63% cal.); Cholesterol, 10 mg; Carbohydrates, 3 g; Fiber 0 g; Sodium, 30 mg

VARIATIONS

Light Béchamel

Use 12 oz (375 g) roux.

Heavy Béchamel

Use 1½ lb (750 g) roux.

FIGURE 9.3 Preparing béchamel sauce.



(a) Combine butter and flour to make a roux.



(b) Cook the roux, keeping it white.



(c) Whip in the milk.



(d) Strain the finished sauce through a china cap lined with cheesecloth.



(e) Finished béchamel sauce.

Small Sauces

For each of the following sauces, add the ingredients indicated to 1 qt (1 L) *béchamel sauce*. Season to taste.

Cream Sauce

4–8 fl oz (125–250 mL) heavy cream, heated or tempered

Mornay Sauce

4 oz (125 g) grated Gruyère cheese and 2 oz (60 g) Parmesan, stirred in until just melted. Finish, off heat, with 2 oz (60 g) raw butter. Thin out with a little hot milk, if necessary, or use a stock or broth appropriate for the dish being prepared.

Mornay Sauce for Glazing or Gratinéeing

Finish Mornay Sauce with liaison of 2 egg yolks and 2 fl oz (60 mL) heavy cream.

Cheddar Cheese Sauce

8 oz (250 g) cheddar cheese, ½ tsp (2 mL) dry mustard, 2 tsp (10 mL) Worcestershire sauce

Mustard Sauce

4 oz (125 g) prepared mustard

Soubise Sauce

1 lb (500 g) onions, finely diced, cooked slowly in 2 oz (60 g) butter without browning. Simmer with sauce 15 minutes and force through a fine sieve.

Tomatoed Soubise Sauce

Add 1 pt (500 mL) thick tomato purée to 1 qt (1 L) soubise sauce.

Nantua Sauce

6 oz (175 g) Shrimp Butter (p. 198), 4 fl oz (125 mL) heavy cream (Note: Classic Nantua sauce is made with crayfish, not readily available in many regions.)

VELOUTÉ

The three **velouté** sauces are the bases of many variations. Instructions for the small sauces indicate which of the three to use. If more than one is given, the choice depends on what you are serving it with.

Note: In North America, chicken velouté is used much more often than veal velouté. Many of the sauces at one time made with veal stock are now made with chicken stock.



Velouté Sauce (Veal, Chicken, or Fish) ♥

YIELD: 2 QT (2L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
4 fl oz	125 mL	Clarified butter	1. Review instructions for making and incorporating roux (pp. 178–180).
4 oz	125 g	White mirepoix, small dice (see Note)	2. Heat the clarified butter in a heavy saucepot over low heat. Add mirepoix and sweat the vegetables without browning them (Fig. 9.4a).
4 oz	125 g	Flour (see Note)	3. Add flour and make a blond roux. Cool roux slightly.
2½ qt	2.5 L	White stock (veal, beef, chicken, or fish)	4. Gradually add the stock to the roux, beating constantly. Bring to a boil, stirring constantly. Reduce heat to a simmer.
		Sachet d’épices:	5. Add the sachet.
1	1	Bay leaf	6. Simmer the sauce very slowly for 1 hour. Stir occasionally, and skim surface when necessary. Add more stock if needed to adjust consistency.
½ tsp	2 mL	Dried thyme	7. If the velouté is to be used as is, season to taste with salt and white pepper. But if it is to be used as an ingredient in other preparations, do not season velouté.
½ tsp	2 mL	Peppercorns	8. Strain through a china cap lined with cheesecloth. Cover or spread melted butter on surface to prevent skin formation. Keep hot in a bain-marie, or cool in a cold-water bath for later use.
3–4	3–4	Parsley stems	9. Evaluate the finished sauce (p. 202).
as needed	as needed	Salt (see step 7)	
as needed	as needed	White pepper (see step 7)	

Per 1 fl oz (29.57 mL): Calories, 30; Protein, 1 g; Fat, 2 g (53% cal.); Cholesterol, 5 mg; Carbohydrates, 3 g; Fiber, 0 g; Sodium, 10 mg.

Note: Use a standard white mirepoix, or substitute leeks for the parsnips, as desired. If you have blond roux on hand, you can use it instead of making roux as part of this procedure. Reduce the clarified butter to 1 fl oz (30 mL). After sweating the mirepoix, add 8 oz (250 g) blond roux.

VARIATION

For a quicker, simpler velouté, omit clarified butter, mirepoix, and sachet.

FIGURE 9.4 Preparing velouté sauce.



(a) Sweat the mirepoix in butter.



(b) Add the flour and make a blond roux.



(c) Whip in white stock.



(d) As the sauce simmers, skim the surface regularly.



(e) Strain the finished sauce through a china cap lined with cheesecloth.



(f) Finished velouté sauce.

Suprême Sauce

YIELD: 2 QT (2 L)

U.S.	METRIC	INGREDIENTS
2 qt	2 L	Chicken velouté
1 pt	500 mL	Heavy cream
2 oz	60 g	Butter, in pieces
to taste	to taste	Salt
to taste	to taste	White pepper
to taste	to taste	Lemon juice

Per 1 fl oz (29.57 mL): Calories, 50; Protein, 1 g; Fat, 5 g (79% cal.); Cholesterol, 20 mg; Carbohydrates, 2 g; Fiber, 0 g; Sodium, 30 mg.

PROCEDURE

1. Place velouté in a saucepan and simmer over moderate heat until reduced by about one-fourth. Stir occasionally.
2. Pour the cream into a stainless-steel bowl and temper it by slowly stirring in a little of the hot sauce. Stir this mixture slowly back into the sauce in the pan and return the sauce just to a simmer.
3. Swirl in raw butter pieces. Season to taste with salt, white pepper, and a few drops of lemon juice.
4. Strain through cheesecloth.

Allemande Sauce

YIELD: 2 QT (2 L)

U.S.	METRIC	INGREDIENTS
2 qt	2 L	Veal velouté (see Note)
		Liaison:
4	4	Egg yolks
8 fl oz	250 mL	Heavy cream
½ fl oz	15 mL	Lemon juice
to taste	to taste	Salt
to taste	to taste	White pepper

Per 1 fl oz (29.57 mL): Calories, 40; Protein, 1 g; Fat, 3.5 g (72% cal.); Cholesterol, 25 mg; Carbohydrates, 2 g; Fiber, 0 g; Sodium, 20 mg.

Note: Allemande sauce, strictly speaking, should be made with veal velouté. However, as chicken velouté is much more common in North America, allemande sauce and the small sauces derived from it are often made with chicken velouté.

PROCEDURE

1. Review instructions for incorporating liaison (p. 181).
2. Place velouté in a saucepan and simmer a few minutes over moderate heat until slightly reduced.
3. Beat the egg yolks and cream together in a stainless-steel bowl.
4. Temper the liaison by slowly beating in about one-third of the hot sauce. Then slowly stir this mixture back into the sauce in the pan.
5. Reheat to just below simmering. Do not boil.
6. Add lemon juice, salt, and white pepper to taste. Strain through cheesecloth.

White Wine Sauce

YIELD: 2 QT (2 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
8 fl oz	250 mL	White wine (dry)	1. Reduce the wine by half in a saucepan.
2 qt	2 L	Fish velouté	2. Add the velouté and simmer until reduced to desired consistency.
8 fl oz	250 mL	Heavy cream, hot	3. Slowly stir in the hot (or tempered) cream.
2 oz	60 g	Butter, in pieces	4. Remove from heat and swirl in raw butter pieces.
to taste	to taste	Salt	5. Season to taste with salt, white pepper, and a few drops of lemon juice.
to taste	to taste	White pepper	6. Strain through cheesecloth.
to taste	to taste	Lemon juice	

Per 1 fl oz (29.57 mL): Calories, 45; Protein, 0 g; Fat, 4 g (85% cal.); Cholesterol, 10 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 30 mg.

VARIATION

Instead of adding hot or tempered heavy cream, make a liaison with 5 egg yolks and 8 fl oz (250 mL) cold heavy cream. Incorporate liaison using the procedure on page 181. Then continue with step 4 in recipe.

Small Sauces

For each of the following sauces, add the listed ingredients to 1 qt (1 L) veal, chicken, or fish velouté, suprême sauce, allemande sauce, or white wine sauce as indicated. Season sauce to taste.

Poulette

Simmer 8 oz (250 g) white mushrooms or mushroom trimmings with velouté when making allemande. Make allemande; strain. Finish with 2 tbsp (30 mL) chopped parsley and lemon juice to taste.

Aurora

Add 6 oz (175 g) tomato purée to 1 qt (1 L) veal or chicken velouté, suprême sauce, or allemande sauce.

Hungarian

Sweat 2 oz (60 g) minced onion and 1 tbsp (15 mL) paprika in 1 oz (25 g) butter until soft. Add ½ cup (100 mL) white wine and reduce by half. Add 1 qt (1 L) veal or chicken velouté, simmer 10 minutes, and strain.

Ivory or Albufera

Add 2 oz (60 g) meat glaze (glace de viande) to 1 qt (1 L) suprême sauce.

Curry

Cook 4 oz (125 g) mirepoix, cut brunoise, in 1 oz (25 g) butter until tender but not brown. Add 1 tbsp (15 mL) curry powder, 1 crushed garlic clove, pinch dried thyme, ½ bay leaf, and 2–4 parsley stems and cook another minute. Add 1 qt (1 L) veal, chicken, or fish velouté. Simmer 20 minutes, add ½ cup (125 mL) cream, strain, and season with salt and lemon juice.

Mushroom

Sauté 4 oz (125 g) sliced mushrooms in 1 oz (25 g) butter, adding 1 tbsp (15 mL) lemon juice to keep them white. Add to suprême, allemande, or white wine sauce or to appropriate velouté.

Bercy

Reduce by two-thirds 2 oz (60 g) chopped shallots and ½ cup (125 mL) white wine. Add 1 qt (1 L) fish velouté, reduce slightly, and finish with 2 oz (60 g) raw butter, 2 tbsp (30 mL) chopped parsley, and lemon juice to taste.

Herb

To white wine sauce add chopped parsley, chives, and tarragon to taste.

Normandy

To 1 qt (1 L) fish velouté add 4 oz (125 mL) mushroom cooking liquid (or 4 oz/125 g mushroom trimmings) and 4 oz (125 mL) oyster liquid or fish fumet. Reduce by one-third. Finish with liaison of 4 egg yolks and 1 cup (250 mL) cream. Strain and swirl in 3 oz (75 g) raw butter.

Anchovy

Follow instructions for Normandy sauce but, in place of the raw butter used to finish the sauce, substitute 6 oz (175 g) anchovy butter.

Shrimp

To 1 qt (1 L) white wine sauce add 4 oz (125 g) shrimp butter and a dash of cayenne. If desired, garnish with 4 oz (125 g) diced, cooked shrimp.

Venetian

Combine ½ cup (125 mL) each white wine and tarragon vinegar, ½ oz (15 g) chopped shallots, and 2 tsp (10 mL) chopped fresh chervil. Reduce by two-thirds. Add 1 qt (1 L) white wine sauce and simmer 2–3 minutes. Strain. Add fresh tarragon to taste.

Horseradish

Add 2 oz (60 g) drained horseradish, ½ cup (125 mL) heavy cream, and 2 tsp (10 mL) dry mustard dissolved in 1 fl oz (30 mL) vinegar to 1 qt (1 L) velouté made with beef or veal stock or broth from Simmered Fresh Beef (p. 442).

ESPAGNOLE OR BROWN SAUCE

As one glance at the procedure for making **espagnole** will tell you, this sauce is more complicated than béchamel or velouté. Because it is the starting point for the hearty, flavorful sauces that accompany red meats, it is necessary to give it extra flavor and richness with mirepoix. Some chefs even add more browned bones and cook the sauce as long as a stock.

Note how the roux is made in the espagnole recipe. Though mirepoix is also cooked in the fat, as shown in Figure 9.5, the basic principle is the same as when you make a simple roux in a separate pot.

Fond Lié

In its simplest form, fond lié, or jus lié, is a brown stock thickened lightly with arrowroot or cornstarch. Its quality can be improved, however, by applying the technique used for making espagnole—that is, reduce brown stock with browned mirepoix and tomato purée or tomato paste, and then thicken with a starch slurry and strain. You can use the same ratio of stock to mirepoix as for espagnole.

GASTRIQUE

A classic technique to add a balanced sweet-sour accent to a sauce is to add a **gastrique**, which is caramelized sugar dissolved in vinegar. For example, a gastrique gives necessary sweetness and acidity to sauce bigarade, the classic orange sauce served with roast duck.

A quantity of gastrique can be made in advance, stored, and used as needed. Heat 4 oz (120 g) sugar until it melts and then caramelizes to a light golden brown. Let cool briefly. Add 3 fl oz (90 mL) wine vinegar and simmer until the caramel is dissolved.



Brown Sauce or Espagnole ♥

YIELD: 1 GAL (4 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
		Mirepoix:	
1 lb	500 g	Onions, medium dice	1. Sauté the mirepoix in butter until well browned (Fig. 9.5).
8 oz	250 g	Carrots, medium dice	2. Add the flour and stir to make a roux. Continue to cook until the roux is browned. (See Variations for alternative procedure.)
8 oz	250 g	Celery, medium dice	3. Gradually stir in brown stock and tomato purée, stirring constantly until the mixture comes to a boil.
8 oz	250 g	Butter	4. Reduce heat to simmer and skim surface. Add the sachet and let simmer about 2 hours, or until the sauce is reduced to 1 gal (4 L). Skim as often as necessary.
8 oz	250 g	Bread flour	5. Strain through a china cap lined with several layers of cheesecloth. Press on mirepoix gently to extract juices.
6 qt	6 L	Brown veal stock	6. Cover or spread melted butter on surface to prevent skin formation. Keep hot in a bain-marie, or cool in a cold-water bath for later use.
8 oz	250 g	Tomato purée (see Variations)	7. Evaluate the finished sauce (p. 202).
		Sachet:	
½	½	Bay leaf	
¼ tsp	1 mL	Thyme	
6–8	6–8	Parsley stems	

Per 1 fl oz (29.57 mL): Calories, 25; Protein, 1 g; Fat, 1.5 g (53% cal); Cholesterol, 5 mg; Carbohydrates, 2 g; Fiber, 0 g; Sodium, 20 mg.

VARIATIONS

If you have brown roux on hand, you may use it instead of making roux as part of the sauce procedure. Reduce the quantity of butter to 2 oz (60 g), or just enough to brown mirepoix. After adding stock and bringing to a simmer in steps 3 and 4, whip in roux.

2 oz (60 g) tomato paste may be used instead of tomato purée. Add paste to the browned mirepoix and continue to brown until the paste turns a rusty brown color.

Jus de Veau Lié I

Reduce the quantity of butter to 2 oz (60 g). Omit flour. In addition to mirepoix, add veal bones or trimmings if desired. Brown with the mirepoix. After straining (step 5), make a slurry of 1 oz (30 g) arrowroot or cornstarch and enough cold water to make a thin paste. Stir into sauce and simmer until clear and thickened.

Jus de Volaille Lié, Jus d'Agneau Lié, Jus de Canard Lié, or Jus de Gibier Lié

In place of veal stock, use brown chicken stock, lamb stock, duck stock, or game stock. If desired, add appropriate bones or trimmings and brown with mirepoix, as for Jus de Veau Lié I.

FIGURE 9.5 Preparing brown sauce or espagnole.



(a) Brown the mirepoix well in fat.



(b) Mix in flour and cook to make a brown roux.



(c) Whip in the stock. Add the sachet and simmer about 2 hours.



(d) Strain the finished sauce through a china cap lined with cheesecloth.



(e) Finished brown sauce or espagnole.

Fond Lié or Jus Lié II ♥

YIELD: 1 QT (1 L)

U.S.	METRIC	INGREDIENTS	PRODUCTION
1 qt	1 L	Brown stock	1. Bring the stock to a boil in a saucepan. Reduce heat to a simmer.
1 oz	30 g	Cornstarch or arrowroot	2. Dissolve the starch in a small amount of cold stock or water. Stir it into the simmering stock.
			3. Simmer until thickened and clear.

Per 1 fl oz (29.57 mL): Calories, 5; Protein, 0 g; Fat 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 0 mg.

VARIATION

For added flavor, the stock can be reduced with browned mirepoix and tomato (as for espagnole) before being thickened. Browned bones may also be added.

Demi-Glace ♥

YIELD: 1 GAL (4 L)

U.S.	METRIC	INGREDIENTS	PRODUCTION
1 gal	4 L	Brown sauce (espagnole)	1. Combine the sauce and stock in a saucepan and simmer until reduced by half.
1 gal	4 L	Brown stock	2. Strain through a chinois (fine china cap) or a regular china cap lined with cheesecloth. Cover to prevent a skin from forming. Keep hot in a bain-marie, or cool in a cold-water bath for later use.

Per 1 fl oz (29.57 mL): Calories 25; Protein, 1 g; Fat 1.5 g (53% cal.); Cholesterol, 5 mg; Carbohydrates, 2 g; Fiber, 0 g; Sodium, 20 mg.

Small Sauces

For each of the following sauces, add the listed ingredients to 1 qt (1 L) *demi-glace*, as indicated.

Bordelaise

Reduce by three-fourths 1 cup (250 mL) dry red wine, 2 oz (60 g) chopped shallots, ¼ tsp (1 mL) crushed peppercorns, a pinch of dried thyme, and ½ bay leaf. Add 1 qt (1 L) *demi-glace*, simmer 15–20 minutes, and strain. Swirl in 2 oz (60 g) raw butter, cut in pieces. Garnish with diced or sliced beef marrow poached in salted water.

Marchand de Vin (Wine Merchant)

Reduce 6 fl oz (200 mL) red wine and 2 oz (60 g) chopped shallots by three-fourths. Add 1 qt (1 L) *demi-glace*, simmer, and strain.

Robert

Cook 4 oz (125 g) chopped onion in butter without browning. Add 1 cup (250 mL) white wine and reduce by two-thirds. Add 1 qt (1 L) *demi-glace* and simmer 10 minutes. Strain and add 2 tsp (10 mL) dry mustard and a pinch of sugar dissolved in a little lemon juice.

Charcutière

Garnish Robert sauce with sour pickles, cut julienne.

Chasseur

Sauté 6 oz (175 g) sliced mushrooms and 2 oz (60 g) minced shallots in 2 oz (60 g) butter. Add 1 cup (250 mL) white wine and reduce by three-fourths. Add 1 qt (1 L) *demi-glace* and 8 oz (250 g) diced tomato. Simmer 5 minutes and add 2 tsp (10 mL) chopped parsley.

Diable (Deviled)

Reduce by two-thirds 8 fl oz (250 mL) white wine, 4 oz (125 g) chopped shallots, ½ tsp (2 mL) crushed peppercorns. Add 1 qt (1 L) *demi-glace* and simmer 20 minutes. Season with cayenne to taste and strain.

Madeira

Reduce 1 qt (1 L) *demi-glace* by about ½ cup (100 mL). Add 3–4 fl oz (100 mL) Madeira wine.

Périgueux

Garnish Madeira sauce with finely diced truffle.

Poivrade

Brown 1 lb (500 g) mirepoix in butter. Add 4 fl oz (125 mL) red wine and 1½ pt (750 mL) Red Wine Marinade for Game (p. 505) and reduce by one-half. Add 1 qt (1 L) *demi-glace* and reduce by one-third over low heat. Add ½ tsp (2 mL) crushed peppercorns and simmer 10 minutes. Strain.

Port Wine

Follow instructions for Madeira sauce, but use port wine instead of Madeira.

Italian Sauce

Sauté 1 lb (500 g) finely chopped mushrooms and ½ oz (15 g) minced shallots in 2 oz (60 g) butter until all moisture is evaporated. Add 1 cup (250 mL) white wine and reduce by half. Add 1 oz (30 g) tomato paste and 1 qt (1 L) *demi-glace* and simmer 10 minutes. Add 2 tbsp (30 mL) chopped parsley.

Mushroom

Sauté 8 oz (250 g) sliced mushrooms and 1 oz (30 g) minced shallots in 2 oz (60 g) butter until browned. Add 1 qt (1 L) *demi-glace* and simmer about 10 minutes. Add 2 oz (60 mL) sherry and a few drops of lemon juice.

Bercy

Reduce by three-fourths 1 cup (250 mL) dry white wine and 4 oz (125 g) chopped shallots. Add 1 qt (1 L) *demi-glace* and simmer 10 minutes.

Piquante

Reduce by two-thirds 4 oz (125 g) minced shallots, 4 fl oz (125 mL) wine vinegar, and 4 fl oz (125 mL) white wine. Add 1 qt (1 L) *demi-glace* and simmer until slightly reduced. Add 2 oz (60 g) capers, 2 oz (60 g) sour pickles, cut brunoise, 1 tbsp (15 mL) chopped parsley, and ½ tsp (2 mL) dried tarragon.

Lyonnaise

Sauté 4 oz (125 g) onions in 2 oz (60 g) butter until slightly browned. Add ½ cup (125 mL) white wine vinegar and reduce by half. Add 1 qt (1 L) *demi-glace* and simmer 10 minutes.

Bigarade

Prepare a gastrique (p. 191) from 6 oz (180 g) sugar and 4 fl oz (125 mL) wine vinegar. Add 8 fl oz (250 mL) orange juice, 3 fl oz (90 mL) lemon juice, 1 qt (1 L) *demi-glace*, and, if available, juices from a roast duck. Simmer and reduce to desired consistency. Garnish with blanched julienne of orange zest.

TOMATO SAUCE

Classical tomato sauce, as explained by Escoffier, is made with a roux, but this is rarely done in modern kitchens. The texture of the puréed tomatoes is sufficient to give the sauce the proper texture, even when no starch thickener is used.

This type of sauce may be referred to as a **coulis** (koo-lee). This French term means, in modern kitchens, a purée of vegetables or fruits, used as a sauce. A recipe for another coulis, of sweet peppers, is found on page 210.

Three main techniques are used to purée vegetables and other ingredients for coulis:

- 1. Puréeing the product in a food processor or blender
- 2. Passing the product through a food mill
- 3. Forcing the product through a fine sieve

Of these three methods, the third, forcing through a fine sieve, usually makes the smoothest purée, but it is also the most time-consuming. If you want a smooth purée but the product is difficult to force through a sieve, you can use one of the other methods first, then pass the purée through the sieve to make it smoother.

Tomato Sauce I ♥

YIELD: 2 QT (2 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
2 oz	60 g	Salt pork	1. Render the salt pork in a heavy saucepot, but do not brown it.
4 oz	126 g	Onion, medium dice	2. Add the onion and carrots and sauté until slightly softened, but do not brown.
4 oz	125 g	Carrots, medium dice	3. Add the tomatoes and their juice, tomato purée, bones, and sachet. Bring to a boil, reduce heat, and simmer over very low heat (see Note) 1½–2 hours, or until reduced to desired consistency.
2 qt	2 L	Tomatoes, canned or fresh, coarsely chopped	4. Remove sachet and bones. Strain sauce or pass it through a food mill.
1 qt	1 L	Tomato purée, canned	5. Adjust seasoning with salt and a little sugar.
8 oz	250 g	Ham bones or browned pork bones	6. Evaluate the finished sauce (p. 202)
		Sachet:	
1 clove	1 clove	Garlic, crushed	
½	½	Bay leaf	
⅛ tsp	0.5 mL	Dried thyme	
⅛ tsp	0.5 mL	Dried rosemary	
⅛ tsp	0.5 mL	Peppercorns, crushed	
to taste	to taste	Salt	
to taste	to taste	Sugar	

Per 1 fl oz (29.57 mL): Calories, 20; Protein, 1 g; Fat, 1 g (35% cal.); Cholesterol, 0 mg; Carbohydrates, 3 g; Fiber, 1 g; Sodium, 120 mg.

Note: Tomato sauce scorches easily, so heat must be very low. The sauce may be cooked in a slow oven (300°F/150°C), loosely covered, to reduce the danger of scorching.

VARIATION

Tomato Sauce II (Vegetarian)

Omit the salt pork. Sweat the vegetables in 1 fl oz (30 mL) olive oil. Omit bones.

Tomato Sauce III

See Italian Tomato Sauce for Pasta, page 405.

Small Sauces

For each of the following sauces, add the listed ingredients to 1 qt (1 L) tomato sauce, as indicated.

Portugaise (Portuguese)

Sauté 4 oz (125 g) onions, cut brunoise, in 1 fl oz (30 mL) oil. Add 1 lb (500 g) tomato concassé (p. 290) and 1 tsp (5 mL) crushed garlic. Simmer until reduced by about one-third. Add 1 qt (1 L) tomato sauce, adjust seasonings, and add 2–4 tbsp (30–60 mL) chopped parsley.

Spanish

Lightly sauté in oil without browning 6 oz (175 g) onion, small dice; 4 oz (125 g) green bell pepper, small dice; and 1 clove garlic, chopped fine. Add 4 oz (125 g) sliced mushrooms and sauté. Add 1 qt (1 L) tomato sauce, and season to taste with salt, pepper, and hot red pepper sauce.

Creole

Sauté in oil 4 oz (125 g) onion, small dice; 4 oz (125 g) celery, sliced; 2 oz (60 g) green bell pepper, small dice; 1 tsp (5 mL) chopped garlic. Add 1 qt (1 L) tomato sauce, 1 bay leaf, pinch dried thyme, and ½ tsp (2 mL) grated lemon rind. Simmer 15 minutes. Remove bay leaf and season to taste with salt, pepper, and cayenne.

Fresh Tomato Coulis with Garlic

YIELD: 1 PT (500 ML)

U.S.	METRIC	INGREDIENTS
3 oz	90 g	Shallots, chopped fine
6	6	Garlic cloves, chopped fine
2 fl oz	60 mL	Olive oil
1 lb 8 oz	750 g	Tomatoes, peeled, seeded, and chopped
to taste	to taste	Salt
to taste	to taste	White pepper

Per 1 fl oz (29.57 mL): Calories, 45; Protein 1 g; Fat, 3.5 g (66% cal.); Cholesterol, 0 mg; Carbohydrates, 3 g; Fiber, 1 g; Sodium, 5 mg.

PROCEDURE

1. Sweat the shallots and garlic in olive oil until soft.
2. Add the tomatoes and cook until excess liquid has cooked out and the sauce is thick.
3. Season to taste.



Fresh Tomato Coulis

BUTTER SAUCES

The fifth leading sauce is hollandaise. Hollandaise and its cousin, béarnaise, are unlike the sauces we have been studying because their major ingredient is not stock or milk but butter.

Before tackling the complexities of hollandaise, we first look at simpler butter preparations used as sauces.

1. Melted butter.

This is the simplest butter preparation of all, and one of the most widely used, especially as a dressing for vegetables.

Unsalted or *sweet butter* has the freshest taste and is ideal for all sauce making.

2. Clarified butter.

Butter consists of butterfat, water, and milk solids. **Clarified butter** is purified butterfat, with water and milk solids removed (Fig. 9.6). It is necessary for many cooking operations. Clarified butter is used in sautéing because the milk solids of unclarified butter would burn at such high temperatures. It is used in making hollandaise because the water of unclarified butter would change the consistency of the sauce. Method 1 in the procedure below is the most widely used in North American and European kitchens. Method 2 is used for the style of clarified butter called *ghee*, used in Indian cuisine.

3. Brown butter.

Known as **beurre noisette** (burr nwah zett) in French, this is whole melted butter that has been heated until it turns light brown and gives off a nutty aroma. It is usually prepared at the last minute and served over fish, white meats, eggs, and vegetables.

Care must be taken not to burn the butter, as the heat of the pan will continue to brown it even after it is removed from the fire.

PROCEDURES for Clarifying Butter

METHOD 1

1. Melt the butter in a heavy saucepan over moderate heat.
2. Skim the froth from the surface.
3. Carefully pour off the clear melted butter into another container, leaving the milky liquid at the bottom of the saucepan.

METHOD 2

1. Melt the butter in a heavy saucepan over moderate heat.
2. Skim the froth from the surface.
3. Turn the heat to very low to avoid burning the butter. Leave the pan on the heat and continue to skim the froth from the surface at intervals. The water in the bottom will boil and gradually evaporate.
4. When the butter looks clear and no longer forms a scum on top, strain off the butter through cheesecloth into another container.

You need 1¼ lb (625 g) raw butter to make 1 lb (500 g) clarified butter; 1 lb (500 g) raw butter yields 12–13 oz (about 400 g) clarified butter.

FIGURE 9.6 Clarifying butter.



(a) Skim the foam from the top of the melted butter.



(b) Ladle off the clear, melted fat.



(c) Continue until only the milky liquid remains in the bottom of the pan.

4. Black butter.

Black butter, or *beurre noir* (burr nwahr), is made like brown butter but heated until it is a little darker, and it is flavored with a few drops of vinegar. Capers, chopped parsley, or both are sometimes added.

To avoid dangerous spattering of the vinegar in the hot butter, many chefs pour the butter over the food item, then deglaze the pan with the vinegar and pour that over the item.

5. Meunière butter.

This is served with fish cooked à la Meunière (p. 638). Brown butter is seasoned with lemon juice and poured over the fish, which has been sprinkled with chopped parsley.

As in the case of black butter, dangerous spattering can result when moisture is added to hot butter. To avoid this, cooks often sprinkle the lemon juice directly on the fish before pouring on the brown butter.

6. Compound butters.

Compound butters are made by softening raw butter and mixing it with flavoring ingredients. The mixture is then rolled into a cylinder in waxed paper.

Compound butters have two main uses:

- Slices of the firm butter are placed on hot grilled items at service time. The butter melts over the item and sauces it.
- Small portions are swirled into sauces to finish them and give them a desired flavor.

Easy as they are to make, compound butters can transform a plain broiled steak into a truly special dish.

The favorite compound butter for steaks is maître d'hôtel (may truh doh tel) butter. Variations are given after the recipe (p. 198).

7. Beurre blanc.

Beurre blanc (burr blon) is a sauce made by whipping a large quantity of raw butter into a small quantity of a flavorful reduction of white wine and vinegar so the butter melts and forms an emulsion with the reduction. The technique is basically the same as monter au beurre (p. 183), except the proportion of butter to liquid is much greater.

Beurre blanc can be made quickly and easily by adding cold butter all at once and whipping vigorously over moderately high heat. The temperature of the butter keeps the sauce cool enough to prevent it from separating. Be sure to remove it from the heat before all the butter is melted, and continue whipping. It is better to remove the sauce from the heat too soon rather than too late because it can always be rewarmed slightly if necessary. Figure 9.7 illustrates this procedure.

Some chefs prefer to use low heat and add the butter a little at a time in order to reduce the chance of overheating and breaking the sauce. The process takes a little longer, but the result is the same.

FIGURE 9.7 Preparing beurre blanc.



(a) Reduce the liquids (usually wine and vinegar) with chopped shallots.



(b) Whip in the raw butter just until the butter is melted and forms a smooth sauce.



(c) Leave in the shallots, or strain them out. Strained beurre blanc has a light, smooth, creamy texture.

Beurre blanc should be held at a warm, not a hot, temperature and stirred or whipped from time to time so the fat and water do not separate. For more stable mixtures of fat and water—called **emulsions**—see the discussion of hollandaise beginning on page 199.

Butter-Enriched Sauces

As already noted, the technique for making beurre blanc is the same as monter au beurre, except the proportion of butter is much higher. The same technique can be used to finish a great variety of sauces, usually white sauces, although brown sauces can be finished the same way.

To improvise a butter-enriched version of a classic white sauce, refer to the sauce variations on page 190. In place of the 1 qt (1 L) velouté or other white sauce base, substitute 1 pt (500 mL) concentrated white stock. Combine with the flavoring ingredients indicated in the variation. Reduce to a slightly syrupy consistency. Whip in 8 oz (250 g) raw butter and strain.

Many other sauces for sautéed meat, poultry, or fish items can be improvised using the same technique. Deglaze the sauté pan with wine, stock, or other liquid, add desired flavoring ingredients, reduce, and finish by whipping in a generous quantity of raw butter. Season and strain.

Maître d'Hôtel Butter

YIELD: APPROX. 1 LB (500 G)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 lb	500 g	Butter, unsalted (see <i>Note</i>)	1. Using a mixer with the paddle attachment, beat the butter at low speed until smooth and creamy.
2 oz	60 g	Chopped parsley	2. Add remaining ingredients and beat slowly until completely mixed.
1½ fl oz	50 mL	Lemon juice	3. Roll the butter into a cylinder about 1 inch (2½ cm) thick in a sheet of parchment or waxed paper. Chill until firm.
2 tsp	10 mL	Salt (see <i>Note</i>)	4. To serve, cut slices ¼ inch (½ cm) thick and place on broiled or grilled items just before service.
pinch	pinch	White pepper	

Per 1 ounce (28.35g): Calories, 230; Protein 0 g; Fat, 25 g (98% cal.); Cholesterol, 70 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 300 mg.
Note: If using salted butter, omit the salt.

VARIATIONS

For each kind of seasoned butter, add to 1 lb (500 g) *butter* the listed ingredients instead of the parsley, lemon juice, and pepper.

Anchovy Butter

2 oz (60 g) anchovy fillets, mashed to a paste

Garlic Butter

1 oz (30 g) garlic, mashed to a paste (p. 295)

Escargot (Snail) Butter

Maître d'Hôtel Butter plus 1 oz (30 g) garlic, mashed to a paste

Shrimp Butter

½ lb (250 g) cooked shrimp and shells, ground very fine. Force shrimp butter through a fine sieve to remove pieces of shell.

Mustard Butter

3–4 oz (100 g) Dijon-style mustard

Herb Butter

Chopped fresh herbs to taste

Scallion or Shallot Butter

2 oz (60 g) minced scallions or shallots

Curry Butter

4–6 tsp (20–30 mL) curry powder heated gently with 1 oz (30 g) butter, then cooled

Beurre Blanc

YIELD: 1 PT (500 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
8 fl oz	250 mL	Dry white wine	1. Combine wine, vinegar, and shallots in a saucepan. Reduce until about 1 fl oz (30 mL) liquid remains.
1½ fl oz	50 mL	White wine vinegar	2. Cut the butter into small pieces.
1 oz	30 g	Shallots, chopped	3. Add the butter to the hot reduction. Set pan over moderately high heat and whip vigorously. When butter is nearly all melted and incorporated, remove from heat and continue to whip until smooth.
1 lb	500 g	Cold butter	4. Season to taste. Shallots may be left in sauce or strained out.
to taste	to taste	Salt	5. Hold the sauce in a warm, not hot, place until served. Stir or whip it from time to time.

Per 1 fl oz (29.57 mL): Calories, 210; Protein, 0 g; Fat, 23 g (94% cal.); Cholesterol, 60 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 240 mg.

VARIATIONS

Herbed Butter Sauce

Add your choice of chopped fresh herbs to finished beurre blanc, or use an herbed compound butter instead of plain raw butter to make beurre blanc.

Beurre Rouge (Red Butter Sauce)

Use dry red wine instead of white wine to make the reduction, and increase the quantity of wine to 1 pt (500 mL). As in basic recipe, reduce the wine to about 1 fl oz. (30 ml). For good color, use a young, bright red wine.

Beurre Rouge for Fish

After reducing red wine for Beurre Rouge, add 6 fl oz (180 ml) fish stock. Reduce the liquid to 2 fl oz (60 ml).

HOLLANDAISE AND BÉARNAISE

Hollandaise is considered an egg-thickened sauce, but the egg doesn't thicken by coagulation as it does in a liaison or in a custard sauce. Instead, it works by emulsification.

An **emulsion** is a uniform mixture of two unmixable liquids. In the case of hollandaise, the two liquids are melted butter and water (including the water in the lemon juice or the vinegar reduction). The two stay mixed and thick because the butter is beaten into tiny droplets and the egg yolks hold the droplets apart. You will encounter emulsion again when you prepare mayonnaise and other salad dressings in Chapter 22.

Two recipes for hollandaise are given. The first is the classic version, flavored with lemon and a vinegar reduction (Fig. 9.8). (You may also see recipes that include shallots in the reduction, in imitation of *beurre blanc*, but this is not traditional, according to Escoffier.) The second recipe, flavored with just lemon juice, is slightly quicker and easier to make.

FIGURE 9.8 Making hollandaise sauce.



(a) Combine the egg yolks and reduction in a stainless-steel bowl.



(b) Whip over a hot-water bath.



(c) Continue to whip over a hot-water bath until thick and light.



(d) Very slowly whip in the butter. (Set the bowl in a saucepan lined with a kitchen towel to hold it steady.)



(e) The finished sauce should be thick but pourable.

Holding Hollandaise Sauce

Hollandaise sauce, as well as other sauces in this family, poses a special safety problem. It must be kept warm for service at a holding temperature of 145°F (63°C) but must not be allowed to get much warmer or the eggs may curdle. Unfortunately, this is only slightly above the Food Danger Zone, at which bacteria grow quickly. Therefore, extra care must be taken to avoid foodborne diseases.

The following sanitation procedures must be observed to avoid the danger of food poisoning:

1. Make sure all equipment is perfectly clean.
2. Hold sauce no longer than 2 hours. Make only enough to serve in this time, and discard any that is left over.
3. Never mix an old batch of sauce with a new batch.
4. Never hold hollandaise or béarnaise—or any other acid product—in aluminum. Use stainless-steel containers.

GUIDELINES for Preparing Hollandaise and Béarnaise



Students tend to be afraid of hollandaise because it has a reputation for being difficult to make. True, precautions are necessary to avoid overcooking the eggs and to get the right consistency. But if you follow the instructions in the recipe carefully and keep in mind these guidelines, you should have no trouble.

Many of these rules have one object in common: Don't overcook the egg yolks, or they will lose their ability to emulsify.

1. Cool the reduction before adding the yolks, or they will overcook.

2. Use the freshest eggs possible for the best emulsification.

For safety, pasteurized eggs are recommended (pp. 776 and 1040).

3. Beat the yolks over hot water.

An experienced cook is able to beat them over direct heat, if care is taken, without making scrambled eggs. Until you have gained some confidence, it is safer to use a hot-water bain-marie.

4. Use a round-bottomed stainless-steel bowl.

The whip must be able to reach all the eggs to beat them evenly. Also, stainless steel will not discolor the sauce or give it a metallic flavor.

5. Have the butter warm but not hot, or it may overcook the eggs. If it is too cool, it might solidify.

6. Add the butter slowly at first.

The yolks can absorb only a little at a time. Add a few drops at first and beat in thoroughly before adding more. If you add butter faster than it can be absorbed, the emulsion may break.

7. Don't add more butter than the egg yolks can hold.

Remember this standard proportion:
6 egg yolks per 1 pound (450 g) clarified butter

8. Broken or curdled hollandaise can be rescued.

First, try adding 1 teaspoon (5 mL) cold water and beating vigorously. If this doesn't work, start over with a couple of egg yolks and repeat the procedure from step 6 in the recipe, adding the broken sauce as you would the butter.

 Hollandaise Sauce I

YIELD: 24 FL OZ (720 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 lb 4 oz	600 g	Butter	1. Review guidelines for preparing hollandaise and béarnaise (above).
1/8 tsp	0.5 mL	Peppercorns, crushed	2. Clarify the butter (p. 196). You should have about 1 pt (480 mL) clarified butter. Keep the butter warm but not hot.
1/8 tsp	0.5 mL	Salt	3. Combine peppercorns, salt, and vinegar in a saucepan and reduce until nearly dry (au sec). Remove from heat and add the cold water.
3 fl oz	90 mL	White vinegar or wine vinegar	4. Pass the diluted reduction through a fine strainer into a stainless-steel bowl. Use a clean rubber spatula to make sure you transfer all flavoring material to bowl.
2 fl oz	60 mL	Water, cold	5. Add the egg yolks to bowl and beat well.
6	6	Egg yolks (see Note after Hollandaise II)	6. Hold the bowl over a hot-water bath and continue to beat the yolks until thickened and creamy.
1–2 tbsp	15–30 mL	Lemon juice	7. Remove the bowl from the heat. Using a ladle, slowly and gradually beat in warm clarified butter, drop by drop at first. If the sauce becomes too thick to beat before all the butter is added, beat in a little lemon juice.
to taste	to taste	Salt	8. When all the butter is added, beat in lemon juice to taste and adjust seasoning with salt and cayenne. If necessary, thin the sauce with a few drops of warm water.
to taste	to taste	Cayenne	9. Strain through cheesecloth if necessary and keep warm (not hot) for service. Hold no longer than 2 hours (p. 199).
			10. Evaluate the finished sauce (p. 202).

Hollandaise Sauce II

YIELD: 24 FL OZ (720 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 lb 4 oz	600 g	Butter	1. Review guidelines for preparing hollandaise and béarnaise (p. 200). 2. Clarify the butter (p. 196). You should have about <i>1 pt (480 mL) clarified butter</i> . Keep the butter warm but not hot.
6	6	Egg yolks (see <i>Note</i>)	3. Place the egg yolks and cold water in a stainless-steel bowl and beat well. Beat in a few drops of lemon juice.
1 fl oz	30 mL	Water, cold	4. Hold the bowl over a hot-water bath and continue to beat until the yolks are thickened and creamy.
1½ fl oz	45 mL	Lemon juice	5. Remove the bowl from the heat. Using a ladle, slowly and gradually beat in the warm butter, drop by drop at first. If the sauce becomes too thick to beat before all the butter is added, beat in a little of the lemon juice.
to taste	to taste	Salt	6. When the butter is all added, beat in lemon juice to taste and adjust seasoning with salt and cayenne. If necessary, thin the sauce with a few drops of warm water.
to taste	to taste	Cayenne	7. Keep warm (not hot) for service. Hold no longer than 2 hours (p. 199). 8. Evaluate the finished sauce (p. 202).

Per 1 fl oz (29.57 mL): Calories, 280; Protein, 1 g; Fat, 31 g (99% cal.); Cholesterol, 155 mg; Carbohydrates, 0 g; Fiber, 0 g; Sodium, 300 mg.

Note: For safety, pasteurized eggs are recommended.

Small Sauces

Maltaise

To 1 pt (500 mL) hollandaise add 1–2 fl oz (30–60 mL) orange juice (from blood oranges, if possible) and 1 tsp (5 mL) grated orange rind. Serve with asparagus.

Mousseline

Whip 4 fl oz (125 mL) heavy cream until stiff and fold into 1 pt (500 mL) hollandaise.

Béarnaise Sauce

YIELD: 24 FL OZ (720 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 lb 4 oz	600 g	Butter	1. Review guidelines for preparing hollandaise and béarnaise (p. 200). 2. Clarify the butter (p. 196). You should have about <i>1 pt (480 mL) clarified butter</i> . Keep the butter warm but not hot.
1 oz	30 g	Shallots, chopped	3. Combine the shallots, vinegar, tarragon, and peppercorns in a saucepan and reduce by three-fourths. Remove from heat and cool slightly.
4 fl oz	120 mL	White wine vinegar	4. To make it easier to beat with a wire whip, transfer the reduction to a stainless-steel bowl. Use a clean rubber spatula to make sure you get it all. Let the reduction cool a little.
2–3	2–3	Tarragon stems, chopped (see <i>Note</i>)	5. Add the egg yolks to the bowl and beat well.
½ tsp	2.5 mL	Peppercorns, crushed	6. Hold the bowl over a hot-water bath and continue to beat the yolks until thickened and creamy.
6	6	Egg yolks (see <i>Note</i>)	7. Remove the bowl from the heat. Using a ladle, slowly and gradually beat in the warm clarified butter, drop by drop at first. If the sauce becomes too thick to beat before all the butter is added, beat in a little lemon juice or warm water.
to taste	to taste	Salt	8. Strain the sauce through cheesecloth.
to taste	to taste	Cayenne	9. Season to taste with salt, cayenne, and a few drops of lemon juice. Mix in the parsley and tarragon.
to taste	to taste	Lemon juice	10. Keep warm (not hot) for service. Hold no longer than 2 hours (p. 199).
1 tbsp	15 mL	Chopped parsley	11. Evaluate the finished sauce (p. 202).
2 tbsp	30 mL	Fresh tarragon, chopped (see <i>Note</i>)	

Per 1 fl oz (29.57 mL): Calories, 280; Protein, 1 g; Fat, 31 g (97% cal.); Cholesterol, 155 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 300 mg.

Note: For safety, pasteurized eggs are recommended.

If fresh tarragon is not available, used 1 tsp (5 mL) dried tarragon in place of the tarragon stems in the reduction, and use ½ tsp (2 mL) dried tarragon in place of the fresh leaves to finish the sauce.

Small Sauces

Foyot

Add 1 oz (30 g) melted meat glaze (*glace de viande*) to 1 pt (500 mL) béarnaise.

Choron

Add 1 oz (30 g) tomato paste to 1 pt (500 mL) béarnaise.

Foyot Sauce



STANDARDS OF QUALITY FOR CLASSICAL SAUCES

After you have finished a sauce, evaluate its quality. Look for the following characteristics:

Roux-Thickened Sauces (white and brown)

1. Consistency and body.

Smooth, with no lumps, no graininess.

Not too thick or pasty, but thick enough to coat the food lightly.

2. Flavor.

Distinctive but well-balanced flavor. No scorched taste. White sauces should have a full but fairly neutral flavor. Brown sauce should have a rich, meaty flavor from roasted bones, but with no burned taste of excessively browned bones.

Proper degree of seasoning.

No starchy taste.

3. Appearance.

Smooth, with a good shine.

Good color for its type (rich, deep brown, for brown sauce, pale ivory for *velouté*, white—not gray—for cream sauce). Uniform color, no dark specks in brown sauce. Brown sauce should not have too reddish a color from using too much tomato product.

A brown sauce thickened by a starch slurry (*jus lié*) is clearer than one thickened by roux.

Tomato Sauce

1. Consistency and body.

Smooth, with no lumps. Slightly coarse; not as smooth as white and brown sauces.

Easily pourable; not too thick or too thin.

2. Flavor.

Distinctive but well-balanced and concentrated flavor of tomatoes. Not bitter, not too acidic, and not too sweet.

Proper degree of seasoning. Tomato flavor should not be overwhelmed by herbs and spices.

3. Appearance.

Opaque, with good red color.

KEY POINTS TO REVIEW

- What are the five leading sauces (also called mother sauces and grand sauces)? Describe the procedure for making each one.
- What is a small sauce?
- What is clarified butter? How is it made? What is it used for?
- What is *beurre noisette*?
- What is a compound butter?
- What is the procedure for making *beurre blanc*?



Hollandaise and Béarnaise

1. Consistency and body.

Perfectly smooth texture, with no graininess from overcooked egg. Light and easily pourable but thick enough to coat foods; somewhat thicker than properly made roux-based sauces.

2. Flavor.

Taste of fresh butter, balanced by a subtle acidity from the reduction and/or lemon juice. Béarnaise has, in addition to these flavors, a mild herb flavor from the tarragon and parsley. Proper amount of salt.

3. Appearance.

Lemon-yellow color. Good shine, but no oiliness.

PAN GRAVIES AND OTHER INTEGRAL SAUCES

An **integral sauce** is a sauce based on the juices released during the cooking of a meat, poultry, fish, or vegetable item. Most of the sauces we have discussed so far are not integral sauces—that is, they are made separately from and independently of the items they are served with. An integral sauce, on the other hand, can't be made separately because it incorporates cooking juices from the item it is served with.

The most important technique required for integral sauces is deglazing (pp. 183 and 186). Juices released by sautéed and roasted meats are reduced and caramelized in the bottom of the pan during cooking. Deglazing dissolves these caramelized juices and incorporates them into the desired sauce. For the simplest example, if you sauté a chicken breast and then deglaze the sauté pan with a little stock and season the resulting liquid, you end up with an integral sauce that can be served with the chicken.

The most basic and familiar integral sauces are pan gravy and jus. **Pan gravy** is a sauce made with the juices or drippings of the meat or poultry with which it is being served. Standard pan gravies are similar to brown sauces. Instead of being made with espagnole or demi-glace as a base, however, they are made from pan drippings plus roux plus stock or water and, sometimes, milk or cream.

Jus (zhoo) refers to unthickened juices from a roast. When the roast is served with these clear, natural juices, it is said to be served **au jus** (oh zhoo), meaning “with juice.” Stock is usually added to the pan juices to obtain enough quantity to serve.

The preparation of both pan gravy and jus are properly part of meat cookery, and recipes and detailed procedures are included in the meat and poultry chapters. Similarly, recipes for all integral sauces are included as part of the meat, fish, or vegetable in the appropriate chapters.

The principal recipes are on page 495 (Roast Beef Gravy) and page 550 (Roast Turkey with Giblet Gravy). Gravy-making is also incorporated in the recipes for Roast Stuffed Shoulder of Lamb (p. 496) and Roast Chicken with Natural Gravy (p. 424).

Now that you have studied sauce making in detail, read the Basic Procedure for Making Pan Gravy on page 204 so you can see how similar it is to making brown sauce and how the same techniques you have just learned are applied to a different product.

MODERN SAUCES

As suggested in the introduction to this chapter, sauce making has changed a great deal since Escoffier's day. Although our basic methods for making many of the sauces in the modern kitchen are derived from classical cuisine, details have changed. Perhaps the most important change is that chefs rely less on roux for thickening a sauce, while reduction has become more important to give sauces body (p. 182). When starches are used, they are often purer starches, such as arrowroot.

BASIC PROCEDURES for Making Pan Gravy

Method 2 has fewer steps, but Method 1 is actually quicker for large quantities and gives greater control over final consistency.

METHOD 1

1. Remove the roast from the roasting pan.

If you did not add mirepoix to the pan during roasting, you can do so now.

2. Clarify the fat.

Set the roasting pan over high heat and cook until all the moisture has evaporated, leaving only the fat, mirepoix, and the brown (caramelized) drippings. Pour off and save the fat.

3. Deglaze the pan.

Pour stock or other liquid into the roasting pan. Stir over heat until the caramelized drippings are dissolved.

4. Combine with stock and simmer.

Pour the deglazing liquid, plus mirepoix, into a large pot with desired amount of stock. Simmer until mirepoix is well cooked. Skim the surface well to remove fat and scum.

5. Make a roux or, alternatively, a slurry of arrowroot or cornstarch and water.

For roux, measure enough of the fat from step 2 to make the correct amount of roux for the volume of gravy. Make a blond or brown roux, as desired. For starch slurry, see page 177.

6. Thicken the gravy with the roux or starch slurry.

7. Strain.

8. Adjust seasonings.

METHOD 2

1. Remove the roast from the roasting pan.

2. Clarify the fat.

3. Add flour to the roasting pan and make a roux.

4. Add stock. Stir until thickened and the pan is deglazed.

5. Strain. Skim excess fat.

6. Adjust consistency, if necessary, with more stock or more roux.

7. Season.

Chefs have also been influenced by other cuisines, such as those of Asia and Latin America, and have borrowed ingredients and procedures from many countries and regions to give variety to their repertoire of sauces.

Because of the ongoing experimentation with and development of new sauces, it is difficult to classify and define them exactly, the way Escoffier did in the last century. We can, however, describe general groups that many of today's popular sauces fall into. The remaining recipes in this chapter include examples of these types of sauces.

A number of other popular sauces, such as barbecue sauce, that don't fit into any of the categories described in the following sections, are included in this chapter. Other sauce recipes are included elsewhere in this book, often as components of other recipes. Among the more important of these are vinaigrette and mayonnaise variations. These are traditionally used as salad dressings but are also used as sauces for meat, seafood, and vegetable items.

The following recipes from other chapters appear on the pages indicated.

Roast Beef Gravy, page 495

Jus Lié, page 495

Italian Tomato Sauce for Pasta, with variations, page 405

Pesto, page 405

Mole Poblano, page 583

Basic Vinaigrette and variations, page 670

American French Dressing, page 671

Oriental Vinaigrette, page 672

Mayonnaise and variations, page 675

Broths and Jus

Beginning with the introduction of nouvelle cuisine in the 1970s, chefs looked for ways to eliminate starch thickeners in sauces in order to make them lighter. The technique of reduction to concentrate a sauce has been the most important tool in this effort. Reduction hasn't been a cure-all, however. First, some of the fresher, lighter flavors of a sauce are lost when a liquid is subjected to the long cooking required for reduction. In addition, reduced sauces sometimes become so gelatinous that they solidify when they cool—not an appetizing result.

Nevertheless, we have become accustomed to sauces that do not cling thickly to the meat, poultry, or seafood. Sauces, often in smaller quantities, are served under or around the item as often as over the top of it, perhaps even more often. Some chefs have gone to the extreme of serving the item in a little broth in place of a sauce. This technique has long been popular with seafood, as in the case of Seafood à la Nage (p. 445), but it is becoming more common with meat as well. The result is often something like a garnished consommé (pp. 238–239), but with very little consommé and a full portion of meat and garnish. The recipe on page 522 is an example.

For a broth to work well as a substitute for a sauce, it should be well flavored and aromatic. Taste the broth, reduce it as necessary to concentrate the flavor, and check the seasonings carefully.

A jus is very much like a broth except it is usually more concentrated, although still unthickened. The term *jus* has two basic meanings:

1. The unthickened, natural juices resulting from a roast. This is the more traditional meaning of *jus* (p. 203). To make a traditional jus, the drippings of a roast are deglazed with stock or other liquid, reduced slightly, seasoned, strained, and served unthickened.

To make a meat jus without a roast, follow the procedure below.

2. An unthickened liquid carrying the concentrated flavor of a specific ingredient. This type of jus is often made from vegetables and is sometimes called an *essence*. To make a vegetable essence, the vegetable is simmered with a stock or broth until the liquid is concentrated and flavorful. The recipe for Mushroom Jus (p. 209, also called *mushroom essence*) is an example of this type of preparation.

PROCEDURE for Making a Meat Jus

1. Cut trimmings of the desired meat or poultry product into small pieces. Place them in a heavy pot over moderate heat.
2. Cook until well browned on all sides. Some liquid will be released from the meat. If the trimmings begin to simmer in these juices instead of browning, just let them continue to cook until the liquid has evaporated and browned on the bottom of the pot.
3. Deglaze with a small quantity of white wine or stock. Continue to cook until the liquid is reduced and the juices again caramelize on the bottom.
4. Add enough stock to cover the meat. Stir to dissolve the caramelized juices on the bottom of the pot. Simmer until the liquid is completely reduced and caramelized.
5. Again add enough stock to cover the meat. Stir to dissolve the caramelized juices. Simmer 10–15 minutes. Strain and degrease.

Purées

Vegetable purées have long been used as sauces. Tomato sauce is the classic example. However, nearly any vegetable can be puréed and used as a sauce, provided it is flavorful, properly seasoned, and of an appropriate consistency or thickness. A vegetable purée is sometimes called a *coulis*.

Purées of starchy vegetables, such as squash or dried beans, may need to be thinned with stock, broth, or water. Even potato purée is sometimes thinned and used as a sauce, usually enriched with a little raw butter stirred in. In addition, potato and other thick purées are used as thickeners for other sauces.

Some vegetables, such as asparagus, make a watery purée. These purées can be reduced to thicken them, but be careful not to lose the fresh vegetable taste and color. This should especially be avoided in the case of green vegetables, which quickly lose their color (p. 277). Although thin vegetable purées may be thickened with a starch, it is more common to leave them thin or to bind them lightly by finishing them with raw butter (*monter au beurre*, p. 183) or by reducing them with a little cream until they have the desired consistency.

Cream Reductions

In the era of *nouvelle cuisine*, sauces based on reduced cream became a popular substitute for roux-thickened white sauces. When heavy cream is reduced, it thickens slightly. A common fault with cream reduction sauces is reducing the cream too much, giving it a heavy texture. If it is reduced beyond this point, it is likely to break, and the butterfat will separate. For an appealing, light texture, reduce the cream until it is about two-thirds its original volume.

A reduced cream sauce is a mixture of reduced cream and a concentrated, flavorful stock. White stock is most often used, although brown cream sauces may also be prepared using brown stock. For good results, the stock should be reduced by about three-fourths. Flavored sauces can be made by reducing the stock with flavoring ingredients, as in the recipe for Chipotle Cream Sauce on page 212.

Two methods are possible:

1. Reducing the cream to the desired consistency and then adding it to the stock reduction.
2. Adding fresh cream to the stock reduction and reducing the mixture to the desired consistency.

Many chefs feel the first method is more controllable. See the following procedure.

PROCEDURE for Making a Cream Sauce Reduction

1. Reduce white stock or brown stock by about three-fourths, or until it is concentrated and flavorful.
2. Measure the reduction. For each pint (500 mL) of reduction, measure about 1½ pints (750 mL) heavy cream.
3. Place the cream in a heavy saucepan over moderate heat and reduce until lightly thickened, or until reduced by about one-third. Stir from time to time with a whip.
4. Bring the stock reduction to a simmer in a sauce pan. Stir in the reduced cream.
5. Check the consistency. Thicken, if necessary, by reducing further, or thin with additional heavy cream.
6. Season and strain.

Salsas, Relishes, and Chutneys

It is said that, in the United States, salsa has become even more popular than ketchup. The salsa referred to is, of course, the Mexican mixture of chopped tomatoes, onions, chiles, herbs, and other ingredients. **Salsa** is actually the Spanish and the Italian word for “sauce,” so the word refers to many types of preparations, both raw and cooked, not just this one Mexican relish. Nevertheless, in English-speaking countries, the word **salsa** usually refers to a mixture of raw or cooked chopped vegetables, herbs, and, occasionally, fruits.

Salsas are easily improvised. Select a suitable mixture of vegetables, fruits, or both, and chop coarsely or finely, as desired. Mix with appropriate chopped fresh herbs and season to taste. Salt draws juices out of the ingredients to provide moisture for the mixture. Add citrus juice or vinegar if the mixture is lacking in acidity. Acidity should balance any sweetness from fruits because salsas are usually intended for savory dishes, not desserts.

The words **relish** and **chutney** have no exact definitions. One meaning of **relish** is any raw or pickled vegetable used as an appetizer (pp. 750–751). For example, a dish of celery sticks, carrot sticks, and olives is sometimes called a **relish dish**, for many years a traditional appetizer

in steakhouses and other restaurants. As used in a discussion of sauces, a **relish** is a mixture of chopped vegetables (and sometimes fruits), at least one of which is pickled in vinegar or a salt solution. By this definition, a salsa may be considered a type of relish, especially if it contains an acid such as vinegar or citrus juice.

The word **chutney** originated in India, where it refers to several types of spicy condiments or relishes, including strongly spiced sweet-and-sour cooked fruit or vegetable mixtures, as well as raw or partially cooked mixtures of chopped herbs or vegetables, also spicy and often containing chiles. Almost all chutneys contain an acid ingredient. Western cooks have been especially inspired by the sweet-and-sour types of chutney, so when the word **chutney** appears on a menu, it usually refers to a cooked fruit or vegetable condiment that is sweet, spicy, and tangy.

Several examples of salsas, relishes, and chutneys are included in this chapter.

Asian Sauces

Sauces from many Asian cuisines, including Japanese, Thai, Vietnamese, and Indian, have entered the Western cook's repertoire in recent years. Asia is, of course, a huge continent, and it would take years of study to become familiar with all its varied cooking traditions. This chapter can only begin that familiarization process by providing a selection of popular recipes with sidebars containing background information on ingredients and techniques.

Incidentally, Chinese cuisines have relatively few standalone sauces. Sauces in stir-fried dishes, for example, are made as part of the cooking process by adding liquids and thickeners to the meat and vegetables as they cook. Ready-made condiments such as oyster sauce and hoisin sauce are also used.

When adopting Asian-style sauces into Western cuisine, cooks should have some familiarity with the regional cuisine they are borrowing from and how the sauces are used in that cuisine. Unless the cook is careful, mixing Asian-style sauces with Western dishes can have strange results.

Flavored Oils

Flavored oils make a light, interesting alternative to vinaigrettes and other sauces when used to dress a wide variety of dishes. They are especially suitable for simple steamed, sautéed, or grilled items, but they can be used with cold foods as well. When used as a sauce, the oil is usually drizzled around or, sometimes, over the item on the plate. A tablespoon (15 mL) or so per portion is often enough.

The simplest way to flavor an oil is simply to put some of the flavoring ingredient in the oil and let it stand until the oil has taken on enough of the flavor. For most flavorings, however, this is not the best way to extract the most flavor. The flavoring ingredient may need some kind of preparation before adding it to the oil. For example, dry spices develop more flavor if they are first heated gently with a little bit of the oil.

PROCEDURE for Making Flavored Oils

1. Prepare the flavoring ingredient in one of the following ways:
 Chop fresh roots (such as horseradish, garlic, shallots, ginger, garlic) or strong herbs (fresh rosemary, sage, thyme, oregano) by hand or in a food processor.
 Grate citrus zests.
 Blanch tender herbs (parsley, basil, tarragon, chervil, cilantro) in boiling water for 10 seconds. Drain immediately and refresh under cold water. Dry well.
 Gently heat dried, ground spices (cinnamon, cumin, curry powder, ginger, mustard, paprika) in a small amount of oil just until they start to give off an aroma.
2. Place the flavoring ingredient in a jar or other closable container. Add oil.
3. Close the jar and shake it well. Let stand 30 minutes at room temperature, then refrigerate.
4. The oil is ready to use as soon as it has taken on the desired flavor, which may be as soon as 1 hour, depending on the ingredient. After 2 days, strain the oil through a chinois lined with a paper coffee filter. Store in the refrigerator.

HYDROCOLLOIDS

A **colloid** is a mixture in which one substance (called the *dispersed phase*) is evenly mixed throughout another substance (called the *continuous phase*). Many colloids are familiar to us. Milk, for example, is liquid water in which milk solids and tiny butterfat globules are evenly mixed. Foams are colloids in which air bubbles are evenly distributed throughout a liquid. Smoke is a colloid of soot particles mixed in air. Emulsions such as mayonnaise (p. 673) are familiar colloids from the kitchen.

A **hydrocolloid** is a colloid in which the continuous phase is water. The presence of particles mixed throughout the water changes the water's characteristics. For example, gelatin is a hydrocolloid familiar to all chefs. In this product, strands of proteins are mixed in water. Because these strands bind to each other, even a small amount of gelatin is enough to turn water from a liquid to a soft solid, called a gel. Another familiar example of a hydrocolloid is a sauce thickened with starch. The strands of starch change the water base from a thin liquid to a thicker one.

When chefs who practice molecular gastronomy use the word *hydrocolloid* to describe unusual thickeners and jelling agents, such as sodium alginate and other gums, it makes them sound especially scientific and mysterious. But remember, chefs have been using hydrocolloids their entire careers. They just haven't called them that.

Refrigerating flavored oils is recommended. As you will recall from Chapter 2, botulism is caused by a kind of bacteria that grows in the absence of air. Because oil prevents air from reaching the flavoring ingredients, if any botulism bacteria are present in the flavorings (especially possible with fresh, raw roots), those bacteria could grow while covered with oil if not refrigerated.

The procedure on page 207 outlines the basic method for making flavored oils, depending on the type of ingredients. Unless otherwise indicated, use a mild or flavorless oil, such as safflower, canola, corn, or grapeseed. In some cases, as with garlic, the flavoring goes well with olive oil, but usually the goal is to have the pure taste of the flavoring ingredient unmasked by the flavor of the oil.

Molecular Gastronomy

As you read in the discussion of molecular gastronomy on page 7, chefs at the forefront of modern cuisine are exploring and inventing new techniques in food preparation and presentation. One category of new techniques is the use of nontraditional thickeners or binding agents for sauces.

Following is an alphabetical list of some of the principal thickeners (often called **hydrocolloids**; see sidebar). Many of these ingredients are used in tiny quantities. For this reason, avant-garde chefs are likely to be working in the metric system (p. 80). It is easier to scale 2 grams of xanthan gum, for example, than 0.07 ounces. (For this reason, some ingredients in the recipes near the end of this chapter indicate only metric measures, not U.S. measures.) This need for precision carries over into every aspect of the chef's work, from scaling all ingredients and measuring temperatures to cutting ingredients and creating plate arrangements.

To give you a taste of these techniques, the end of the chapter features several unusual sauces and other condiments employing these ingredients. In addition, you will also find vegetable recipes in Chapter 12 (pp. 325–326) that employ these thickeners.

Agar-agar. A jelling agent derived from seaweed. Agar-agar is a traditional ingredient in Asian cuisines and has long been used in Western cooking as a vegetarian substitute for gelatin. To use, stir into a cold liquid and bring to a boil. The liquid sets to a gel when cooled to 95°F (35°C). Once jelled, it can be reheated to serve warm because it does not melt until heated to at least 185°F (85°C). To use as a thickener, jell the liquid and then blend in a blender.

Calcium lactate and calcium chloride. Calcium compounds used in the process of spherification (p. 124).

Carageenan. A hydrocolloid or thickener derived from seaweed. Carageenans are mixed with cold liquids and then heated to thicken.

Gellan gums are used to make firm or solid gels. Both dissolve when the liquid they are mixed with is heated, and both form gels when the liquid is cooled. **High acyl gellan** forms soft, elastic gels which melt if heat is reapplied. **Low acyl gellan** forms hard gels that are more resistant to melting. These two gums can be used alone or in combination to produce a wide variety of textures.

Guar gum. A hydrocolloid or thickener derived from the guar bean plant. This is a powerful stabilizer and thickener that has long been used in commercial ice creams.

Methylcellulose. A hydrocolloid derived from plant fiber. It has long been used as a dietary fiber supplement. It is an unusual thickener and jelling agent because it thickens as it is heated and thins out or melts when cooled. This allows the chef to create unusual effects. Methylcellulose is also used to stabilize foams.

Sodium alginate. A hydrocolloid derived from seaweed. This ingredient is used in the process of spherification. It does not have to be heated to make a gel, and the gel is **nonreversible**. This means once the gel formed, it stays solid even when heated.

Soy lecithin. A powerful emulsifier. Lecithin is the component of egg yolks that makes mayonnaise possible (p. 126). Also extracted from soybeans, lecithin is used to stabilize many mixtures that would separate without it.

Tapioca maltodextrin. A modified food starch that, when mixed with fat, changes it to a powder. Because maltodextrin dissolves in water, an oil, such as olive oil, that has been powdered changes back to an oil in the mouth.

Ultra-Tex 3 and Ultra-Tex 8. Modified food starches extracted from tapioca. The name is a trademark of the National Starch Company, which makes it. Both products thicken cold liquids without heating. If the thickened liquid is poured into a thin layer, it dries to form a thin film or sheet. Ultra-Tex 8 is a newer product that works better in acidic liquids and can be used in smaller quantities.

Xanthan gum. A hydrocolloid or thickener made by fermenting sugar with a special bacterium. It has been used for years to give structure to gluten-free breads and other baked goods. Liquids thickened with xanthan gum have the same thickness whether hot or cold.



KEY POINTS TO REVIEW

- What does the term *integral sauce* mean?
- What is the basic procedure for making a pan gravy?
- What is the basic procedure for making a cream reduction sauce?
- What is the basic procedure for making a flavored oil?

Mushroom Jus ♥ 🍄

YIELD: 2 QT (2 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
3 lb	1.5 kg	Mushrooms, cleaned, coarsely chopped	1. Place the mushrooms and the first quantity of water in a stockpot.
2 gal	8 L	Water	2. Bring to a boil. Reduce the heat to a rapid simmer and cook until most of the liquid has evaporated.
2 gal	8 L	Water	3. Add the second quantity of water and repeat the reduction process.
2 gal	8 L	Water	4. Add the third quantity of water. Reduce by three-quarters.
			5. Strain through a china cap lined with cheesecloth, pressing on the mushrooms to extract as much liquid as possible.
			6. To use or to finish as a sauce, see Variations.

Per 1 fl oz (29.57 mL): Calories, 5; Protein, 1 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 0 mg.

VARIATIONS

The jus can be used as is, seasoned with salt and pepper. A small amount of arrowroot or other starch may be used to bind the sauce lightly. Alternatively, finish by enriching with cream (p. 206 for information

on cream reductions) or butter (p. 183). The jus can also be added as a flavoring ingredient to meat or poultry broths and to demi-glace, and it can be used as a deglazing liquid.

Lamb Reduction

YIELD: APPROX. 12 FL OZ (360 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1½ tsp	7 mL	Vegetable oil	1. Heat the oil in a saucepan over medium heat. Add the lamb bones. Brown evenly. Remove and set aside.
1 lb	480 g	Lamb bones and/or trimmings	2. Add the mirepoix and cook until lightly browned.
8 oz	240 g	Mirepoix	3. Add the tomato paste and cook until lightly caramelized.
1 tbsp	15 mL	Tomato paste	4. Deglaze the pan with the red wine. Reduce by three-quarters.
12 fl oz	360 mL	Red wine	5. Add the stock and sachet, and return the lamb bones to the pot. Bring to a boil, reduce heat to a simmer, and simmer until reduced by half. Skim frequently during cooking.
1½ qt	1.5 L	Brown lamb stock	6. Strain through a chinois into a clean saucepan.
		Sachet:	7. Continue to reduce until just a little lighter than nappé consistency (p. 176). Continue to skim while reducing.
1	1	Bay leaf	8. Add salt and pepper to taste.
2 sprigs	2 sprigs	Fresh thyme	9. Swirl in raw butter (monter au beurre).
8	8	Peppercorns	10. Add the lemon juice or vinegar to cut the richness of the flavor.
6	6	Parsley stems	
to taste	to taste	Salt	
to taste	to taste	Pepper	
2 oz	60 g	Butter, unsalted	
½ tsp	2 mL	Lemon juice or sherry vinegar	

Per 1 fl oz (29.57 mL): Calories 80; Protein, 2 g; Fat, 4.5 g (51% cal.); Cholesterol, 10 mg; Carbohydrates, 2 g; Fiber, 0 g; Sodium, 250 mg.

Bell Pepper Coulis ♥

YIELD: 2½ PT (1.25 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
4 lb	2 kg	Red or yellow bell peppers	1. Split peppers in half lengthwise. Remove cores, seeds, and membranes. Chop coarsely.
2 fl oz	60 mL	Olive oil	2. Heat the olive oil in a saucepot over low heat.
2 oz	60 g	Shallots, chopped	3. Add the shallots and peppers. Cover and sweat over low heat until vegetables are soft, about 20 minutes.
4 fl oz	125 mL	Chicken stock, vegetable stock, or water	4. Add the stock or water. Simmer 2–3 minutes.
1–4 fl oz	30–125 mL	Additional stock or water	5. Purée the vegetables and liquid in a blender, then pass through a strainer.
to taste	to taste	Salt	6. Adjust the texture by adding water or stock to thin it.
to taste	to taste	White pepper	7. Add salt and white pepper to taste.

Per 1 fl oz (29.57 mL): Calories, 25; Protein, 0 g; Fat, 1.5 g (53% cal.); Cholesterol, 0 mg; Carbohydrates, 3 g; Fiber, 1 g; Sodium, 0 mg.

VARIATION

Bell Pepper and Tomato Coulis

Combine bell pepper coulis with an equal volume of tomato purée.

Root Vegetable Purée

YIELD: 2 LB (960 G)

U.S.	METRIC	INGREDIENTS	PROCEDURE
6 oz	180 g	Rutabaga (see Note)	1. Chop the rutabaga, carrots, parsnips, and turnips into small pieces (this is a good use of trimmings left from other recipes).
6 oz	180 g	Carrots	2. Combine the vegetables and stock in a saucepan. Bring to a boil, reduce to a simmer, and cook until the vegetables are very tender.
6 oz	180 g	Parsnips	3. Drain and reserve the stock.
4½ oz	135 g	Turnips	4. Place the vegetables in a blender and blend to a purée. Keep the vegetables in the blender for the remaining steps.
1 qt	1 L	Chicken stock or vegetable stock	5. Add the raw butter and blend in.
3 oz	90 g	Butter, unsalted	6. Add enough of the reserved stock to make a soft, smooth purée.
to taste	to taste	Salt	7. Season to taste with salt and pepper.
to taste	to taste	White pepper	

Per 1 fl oz (29.57 mL): Calories 40; Protein, <1 g; Fat, 2.5 g (56% cal.); Cholesterol, 5 mg; Carbohydrates, 3 g; Fiber, <1 g; Sodium, 50 mg.

Note: For all the vegetables, use trimmings left over from other preparations if available.

Carrot Purée

YIELD: APPROX. 1 LB 8 OZ (720 G)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 lb	480 g	Carrots, large dice	1. Combine carrots, juice, and stock in a saucepan.
1 pt	480 mL	Carrot juice	2. Bring to a boil, reduce to a simmer, and simmer until carrots are very tender.
8 fl oz	240 mL	Chicken stock or vegetable stock	3. Drain the carrots and reserve the cooking liquid.
2 oz	60 g	Butter	4. Purée the carrots in a blender until smooth.
to taste	to taste	Salt	5. Add the raw butter and blend it in.
to taste	to taste	Pepper	6. Adjust the consistency as necessary by adding enough of the reserved cooking liquid to make a soft purée.

Per 1 fl oz (29.57 mL): Calories 35; Protein, <1 g; Fat, 2 g (51% cal.); Cholesterol, 5 mg; Carbohydrates, 3 g; Fiber, <1 g; Sodium, 55 mg.

7. Season with salt and pepper.

Cauliflower Purée

YIELD: APPROX. 1 LB 8 OZ (720 G)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 lb	480 g	Cauliflower, cut up	1. Combine cauliflower, cream, and stock or water in a saucepan. Bring to a boil, then reduce heat to a simmer.
8 fl oz	240 mL	Heavy cream	
8 fl oz	240 mL	Chicken stock, vegetable stock, or water	
2 oz	60 g	Butter	4. Purée the cauliflower in a blender.
to taste	to taste	Salt	5. Add the butter and purée until smooth.
to taste	to taste	White pepper	6. Add a little of the reserved cooking liquid if necessary to adjust the consistency to a soft purée.
to taste	to taste	Lemon juice	7. Add salt, pepper, and lemon juice to taste.

Per 1 fl oz (29.57 mL): Calories 60; Protein, <1 g; Fat, 6 g (90% cal.); Cholesterol, 20 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 35 mg.

Cream Sauce for Fish

YIELD: 1 PT (500 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 oz	30 g	Shallots, chopped	1. Sweat the shallots in butter until soft.
½ oz	15 g	Butter	
1 pt	500 mL	Fish stock	
8 fl oz	250 mL	Dry white wine	
4	4	Parsley stems	
½	½	Bay leaf	3. Add the cream and bring to a boil. Boil 1–2 minutes, or until reduced to a light, saucelike consistency.
1 pt	500 mL	Heavy cream	
to taste	to taste	Lemon juice	
to taste	to taste	Salt	
to taste	to taste	White pepper	
			4. Season to taste with lemon juice, salt, and white pepper.

Per 1 fl oz (29.57 mL): Calories, 130; Protein, 2 g; Fat, 13 g (81% cal.); Cholesterol, 45 mg; Carbohydrates, 2 g; Fiber, 0 g; Sodium, 20 mg.

VARIATIONS

Cream Sauce for Poultry and Meat

Substitute chicken stock or white veal stock for fish stock.

Herbed Cream Sauce

Garnish the sauce with appropriate chopped fresh herbs, such as tarragon, chives, or parsley.

Chipotle Cream Sauce

YIELD: 12 FL OZ (375 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 qt	1 L	Brown stock	1. Combine the stock and chiles in a saucepot.
2	2	Whole, dried chipotle chiles	2. Bring to a slow simmer. Simmer until reduced by three-fourths.
12 fl oz	375 mL	Heavy cream	3. While the stock is reducing, place the cream in a second saucepot and reduce by one-third.
to taste	to taste	Salt	4. Stir the reduced cream into the reduced stock. If necessary, adjust consistency of the sauce by reducing a little more to thicken or adding fresh cream to thin. The sauce should be about the thickness of heavy cream. The consistency depends on the gelatin content of the stock and fat content of the cream.
to taste	to taste	White pepper	5. Season to taste with salt and white pepper.
Per 1 fl oz (29.57 mL): Calories, 110; Protein, 1 g; Fat, 11 g (93% cal.); Cholesterol, 45 mg; Carbohydrates, 0 g; Fiber, 1 g; Sodium, 20 mg.			6. Strain. Discard chiles.

VARIATIONS

White stock, chicken stock, or vegetable stock may be substituted for brown stock.

Herb Cream Sauce

Use white stock or chicken stock instead of brown stock. Omit chiles. Add chopped fresh herbs (such as parsley, tarragon, chervil, basil) as desired to the sauce after straining.

Salsa Verde Cocida

YIELD: 1 QT (1 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
4	4	13-oz (368-g) cans whole tomatillos (Mexican green tomatoes)	1. Drain the tomatillos.
2 oz	60 g	Onion, chopped	2. Combine tomatillos, onion, garlic, chiles, and cilantro in a blender. Blend to a smooth purée.
4	4	Garlic cloves, chopped	
2–4 oz	60–125 g	Green chiles, such as jalapeño or serrano, canned or fresh	
1 oz	30 g	Fresh cilantro leaves (optional)	
1 fl oz	30 mL	Oil	3. Heat the oil in a large saucepan. Add the purée and cook 4–5 minutes, or until slightly thickened.
to taste	to taste	Salt	4. Season to taste with salt.
Per 1 fl oz (29.57 mL): Calories, 25; Protein, 2 g; Fat, 1 g (27% cal.); Cholesterol, 0 mg; Carbohydrates, 4 g; Fiber, 1 g; Sodium, 55 mg.			

VARIATIONS

Salsa Roja

Substitute 2 lb (1 kg) red, ripe tomatoes, peeled, or canned red tomatoes for the tomatillos. Onion may be included or omitted to create slightly different flavors.

Tomato Broth for Chiles Rellenos

Prepare as for Salsa Roja, using onion but omitting chiles and cilantro. After step 3, add 3 pt (1.5 L) pork stock (including the cooking liquid from making Picadillo (p. 520) for the filling for the chiles) and/or chicken stock. Also, add a sachet containing 6 whole cloves, 10 peppercorns, 2 bay leaves, and 1 small cinnamon stick. Simmer until slightly thickened to the consistency of a thick broth or thin sauce.



Salsa Verde Cocida

Salsa Cruda



YIELD: 1 QT (1 L)

U.S.	METRIC	INGREDIENTS
1 lb 4 oz	600 g	Fresh tomatoes
4 oz, or to taste	125 g, or to taste	Fresh green chiles, such as jalapeño or serrano
6 oz	175 g	Onion
½–1 oz	15–30 g	Fresh cilantro leaves, chopped
1 tbsp	15 mL	Lime juice or vinegar
2–4 fl oz	60–125 mL	Water or tomato juice, cold
1½ tsp	7 mL	Salt

Per 1 fl oz (29.57 mL): Calories, 10; Protein, 0 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 2 g; Fiber, 0 g; Sodium, 110 mg.

Note: This sauce is used as a table condiment with many dishes, including eggs, broiled meats, tacos, tortillas, and beans. It is best if used within a few hours.

PROCEDURE

1. Chop the tomatoes fine. (You may peel them, but it is not necessary.)
2. Remove the stem ends of the chiles. Chop the chiles fine.
3. Mince the onion.
4. Mix together the tomato, chiles, onion, cilantro, and lime juice or vinegar. Dilute with water or tomato juice to make a thick, chunky sauce.
5. Add salt to taste.



Salsa Cruda

Ancho Sauce



YIELD: APPROX. 1½ PT (750 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
8	8	Dried ancho chiles	1. Toast the chiles lightly in a dry skillet until softened. Split open. Remove and discard seeds and core. 2. Soak chiles about 30 minutes in enough hot water to cover. Drain. 3. Combine chiles, onion, garlic, cumin, oregano, and water or stock in a blender. Blend to a smooth purée.
2 oz	60 g	Onion, chopped	
3	3	Garlic cloves, chopped	
1 tsp	5 mL	Ground cumin	
½ tsp	2 mL	Dried oregano	
1 pt	500 mL	Water or chicken stock	4. Heat the oil in a saucepan and add the chile purée. Simmer 2–3 minutes. 5. Season to taste with salt.
1 fl oz	30 mL	Oil	
to taste	to taste	Salt	

Per 1 fl oz (29.57 mL): Calories, 30; Protein, 1 g; Fat, 1.5 g (46% cal.); Cholesterol, 0 mg; Carbohydrates, 3 g; Fiber, 1 g; Sodium, 5 mg.

VARIATION

Blend 8 oz (250 g) chopped tomato with the chiles in step 3.

Apple Relish

YIELD: 11 OZ (330 G)

U.S.	METRIC	INGREDIENTS	PROCEDURE
7 oz	210 g	Granny Smith apple, peeled and cut into small dice	1. Combine all ingredients except the parsley and mix until evenly combined. 2. Just before serving, mix in the parsley.
1/3 cup	80 mL	Red onion, small dice, rinsed and drained	
2 tbsp	30 mL	Red bell pepper, small dice	
2 tbsp	30 mL	Cider vinegar	
1 tbsp	15 mL	Honey	
1 1/2 tsp	7 mL	Olive oil	
to taste	to taste	Salt	
to taste	to taste	Black pepper	
1 tbsp	15 mL	Italian parsley, cut chiffonade	

Per 1 fl oz (29.57 mL): Calories 20; Protein, 0 g; Fat, 0.5 g (23% cal.); Cholesterol, 0 mg; Carbohydrates, 4 g; Fiber, 0 g; Sodium, 0 mg.

Tomato Raisin Chutney

YIELD: 11/4 PT (625 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
2 lb 8 oz	1.2 kg	Tomatoes, fresh (see Note)	1. Blanch the tomatoes in boiling water for 10 seconds to loosen skins. Peel and trim. 2. Cut tomatoes into quarters. 3. Combine the garlic, ginger, and first quantity of vinegar in a blender and blend until smooth. 4. Combine tomatoes, garlic mixture, second quantity of vinegar, sugar, and salt in a stainless-steel saucepan. 5. Bring the mixture to a boil, stirring to dissolve the sugar. 6. Cook at a slow simmer, stirring occasionally, until the mixture becomes thick. There should be about 1 1/2 pints (750 mL). 7. Add the chiles and raisins. Simmer another 5–10 minutes. Remove from heat and cool. 8. Taste and add more salt if necessary.
2 oz	60 g	Garlic, coarsely chopped	
1 oz	30 g	Fresh ginger root, peeled, coarsely chopped	
4 fl oz	120 g	Red wine vinegar	
6 fl oz	180 g	Red wine vinegar	
8 oz	240 g	Sugar	
1 tsp	5 mL	Salt	
2 tbsp	30 mL	Chopped hot green chiles	
1 1/2 oz	45 g	Golden raisins	

Per 1 ounce (28.35 g): Calories, 70; Protein, 1 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 17 g; Fiber, 1 g; Sodium, 125 mg.

Note: If good-quality ripe tomatoes are not available, substitute 2 lb (900 g) canned tomatoes with their juice.

Tomato Raisin Chutney



Pear Chutney

YIELD: APPROX. 9 OZ

U.S.	METRIC	INGREDIENTS
2	2	Pears
2 tbsp	30 mL	Honey
2 tbsp	30 mL	Cider vinegar
2 fl oz	30 mL	Pear juice or apple juice
1/8 tsp	0.5 mL	Cinnamon
pinch	pinch	Nutmeg
pinch	pinch	Ground cloves
to taste	to taste	Salt

PROCEDURE

1. Peel the pears and cut into small dice.
2. Combine the pears, honey, vinegar, juice, and spices in a small saucepan. Cook over low heat until the pears are tender and the liquid is reduced to a syrup. (Heat must be low, or the liquid will reduce before the pears are cooked.)
3. Season to taste with salt.

Per 1 fl oz (29.57 mL): Calories 40; Protein, 0 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 11 g; Fiber, 1 g; Sodium, 0 mg.

Cucumber Raita

YIELD: 1 1/2 PT (750 ML)

U.S.	METRIC	INGREDIENTS
1/2 tsp	2 mL	Cumin seed
8 oz	250 g	Cucumber
1 pt	500 mL	Plain yogurt
1 tsp	5 mL	Salt
1/8 tsp	1 mL	Black pepper
1/8–1/4 tsp	1–2 mL	Cayenne

PROCEDURE

1. In a small, dry skillet over moderate heat, toast the cumin seeds until aromatic and a slightly darker shade of brown. Remove from the heat and grind in a spice grinder.
2. Peel and grate the cucumbers coarsely.
3. Place the yogurt in a bowl and whip until smooth.
4. Add the ground cumin, grated cucumber, salt, pepper, and cayenne. Mix well.

Per 1 fl oz (29.57 mL): Calories, 15; Protein, 1 g; Fat, 1 g (53% cal.); Cholesterol, 0 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 105 mg.

Nuoc Cham (Vietnamese Dipping Sauce)

YIELD: 15 FL OZ (450 ML)

U.S.	METRIC	INGREDIENTS
2	2	Garlic cloves, chopped
2–4	2–4	Fresh Thai chiles, seeded and chopped
3 tbsp	45 mL	Sugar
4 fl oz	125 mL	Lime juice
4 fl oz	125 mL	Nuoc nam (Vietnamese fish sauce) or nam pla (Thai fish sauce)
4 fl oz	125 mL	Water
1 oz	30 g	Carrot, cut fine julienne

PROCEDURE

1. Pound the garlic, chiles, and sugar in a mortar to make a paste.
2. Place the garlic paste in a bowl and mix in the lime juice, stirring until the sugar is dissolved.
3. Add the remaining ingredients and mix well.

Per 1 fl oz (29.57 mL): Calories, 20; Protein, 1 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 4 g; Fiber, 0 g; Sodium, 740 mg.

Nuoc Cham



Thai Red Curry Sauce

YIELD: 18 FL OZ (550 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 fl oz	30 mL	Vegetable oil	1. Heat the oil over moderate heat in a saucepan.
1½ oz	45 mL	Red curry paste (see sidebar)	2. Add the curry paste and cook until aromatic.
2 fl oz	60 mL	Water or stock	3. Stir in the water or stock and bring to a simmer.
14 fl oz	410 mL	Coconut milk, canned, unsweetened	4. Add the coconut milk and nam pla. Bring to a simmer and simmer several minutes to blend flavors.
1½ oz	45 mL	Nam pla (Thai fish sauce)	

Per 1 fl oz (29.57 mL): Calories, 60; Protein, 1 g; Fat, 7 g (89% cal.); Cholesterol, 0 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 190 mg.

VARIATION

Thai Green Curry Sauce

Substitute green curry paste for red paste in the recipe.

THAI CURRIES

In Thai cuisine, curry sauces are typically made as integral sauces (p. 203). With a variety of ready-made curry pastes on hand, it is simple to sauté the desired meat or seafood, prepare a sauce flavored with a curry paste, and stew the meat in the sauce with the desired vegetables.

In European and North American kitchens, on the other hand, curry sauces are often prepared separately and added to the plate at service time. The recipes included here can be used either way. To use the curry sauce recipe as an integral sauce, add the curry paste

to the pan in which you have sautéed your meat or fish item. Finish the sauce as directed in the recipe, and return the meat to the sauce to finish cooking.

Thai curry pastes are available commercially. If none is available, use the recipes included here. Commercial pastes are usually of excellent quality and contain ingredients that may be hard to obtain in Western kitchens. The curry paste recipes here are useful when commercial curry pastes and unusual Asian ingredients are not available.

Red Curry Paste

YIELD: 1 LB 4 OZ (560 G)

U.S.	METRIC	INGREDIENTS	PROCEDURE
2 oz	60 g	Galangal, peeled and chopped (see Note)	1. Combine all ingredients in a food processor. Process until the mixture forms a smooth paste.
6 oz	180 g	Shallots, chopped	2. Refrigerate and use as needed to make curry sauces.
2 oz	60 g	Garlic, chopped	
3 oz	90 g	Cilantro roots (see Note)	
2 tbsp	30 mL	Lime zest, chopped	
5 tbsp	75 mL	Cayenne	
4	4	Lemongrass stalks, tender parts only, chopped	
3 fl oz	90 mL	Vegetable oil	

Per 1 ounce (28.35 g): Calories, 50; Protein, 4 g; Fat, 4.5g (77% cal.); Cholesterol, 0 mg; Carbohydrates, 3 g; Fiber, 1 g; Sodium, 0 mg.

Note: Galangal is a root that resembles fresh ginger in appearance but has a somewhat different taste. If it is not available, use fresh ginger. Cilantro roots are the roots attached to ordinary cilantro that are usually discarded. Save, wash thoroughly, and use for this preparation. If not available, use cilantro stems.

Green Curry Paste



YIELD: 15 OZ (475 G)

U.S.	METRIC	INGREDIENTS
15	15	Serrano chiles, seeded and chopped
2 oz	60 g	Shallots, chopped
2 oz	60 g	Garlic, chopped
4	4	Lemongrass stalks, tender parts only, chopped
2 oz	60 g	Cilantro roots, chopped (see Note to Red Curry Paste)
2 oz	60 g	Cilantro leaves, chopped
½ oz	15 g	Galangal, peeled and chopped (see Note to Red Curry Paste)
2 tbsp	30 mL	Lime zest, chopped
1 tsp	5 mL	Nutmeg
3 fl oz	90 mL	Vegetable oil

- PROCEDURE**
1. Combine all ingredients in a food processor. Process until the mixture forms a smooth paste.
 2. Refrigerate and use as needed to make curry sauces.

Per 1 ounce (28.35 g): Calories, 60; Protein, 1 g; Fat, 6 g (77% cal.); Cholesterol, 0 mg; Carbohydrates, 3 g; Fiber, 1 g; Sodium, 195 mg.

Indonesian Peanut Sauce



YIELD: 1 PT (500 ML)

U.S.	METRIC	INGREDIENTS
8 oz	250 g	Peanut butter
8 fl oz	250 mL	Hot water
4–6	4–6	Garlic cloves, crushed to a paste
2–3	2–3	Serrano chiles, seeded, chopped fine
1 tbsp	15 mL	Fresh ginger root, peeled and chopped fine
1 tbsp	15 mL	Brown sugar
1 tbsp	15 mL	Lime juice
1 fl oz	30 mL	Soy sauce

- PROCEDURE**
1. Combine all ingredients in a food processor. Process until the mixture forms a smooth sauce.
 2. Refrigerate.

Per 1 fl oz (29.57 mL): Calories, 90; Protein, 4 g; Fat, 7 g (66% cal.); Cholesterol, 0 mg; Carbohydrates, 4 g; Fiber, 1 g; Sodium, 190 mg.



Indonesian Peanut Sauce

Asian Sweet-and-Sour Sauce



YIELD: APPROX. 14 FL OZ (420 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 fl oz	30 mL	Oil	1. Heat the oil in a saucepan or sauté pan over moderate heat.
4 oz	120 g	Onion, small dice	2. Add the onion. Cook until soft, but do not brown.
3 oz	90 g	Fresh ginger, peeled and chopped	3. Add the ginger, sugar, and pineapple. Cook until sugar and fruit just start to caramelize.
4 oz	120 g	Sugar	
12 oz	360 g	Pineapple, fresh, diced	
3 fl oz	90 mL	Lime juice	4. Add the lime juice, vinegar, and cayenne. Bring to a simmer, then remove from the heat.
6 fl oz	180 mL	Red wine vinegar	5. Put all ingredients into a blender and blend to a smooth purée.
¼ tsp	1 mL	Cayenne	6. Pass the sauce through a tamis or fine strainer, forcing through as much of the solids as possible. Alternatively, pass through a food mill fitted with the fine blade.

Per 1 fl oz (29.57 mL): Calories, 80; Protein, 0 g; Fat, 2 g (24% cal.); Cholesterol, 0 mg; Carbohydrates, 14 g; Fiber, 1 g; Sodium, 0 mg.

Sesame Miso Sauce



YIELD: 12 FL OZ (360 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
2 oz	60 g	Sesame seeds	1. Over low heat, toast the sesame seeds in a dry sauté pan until aromatic and slightly darkened.
			2. Grind the toasted seeds in a mortar or spice grinder.
8 oz	240 g	Red miso (p. 822)	3. Mix the ground sesame seeds with the remaining ingredients. Stir well.
2½ oz	75 g	Sugar	
2 fl oz	60 mL	Mirin (sweet Japanese rice wine)	

Per 1 fl oz (29.57 mL): Calories, 110; Protein, 3 g; Fat, 3 g (26% cal.); Cholesterol, 0 mg; Carbohydrates, 15 g; Fiber, 1 g; Sodium, 680 mg.



Sesame Miso Sauce

Applesauce ♥

YIELD: APPROX. 1 QT (1 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
4 lb	2 kg	Apples (see <i>Note</i>)	1. Cut the apples into quarters and remove cores. Skins may be left on because they will be strained out later. (Red peels will color the sauce pink.) Dice the apples coarsely.
to taste	to taste	Sugar (see step 4)	2. Place apples in a heavy saucepan with about 2 oz (60 mL) water. Cover.
to taste	to taste	Lemon juice	3. Set the pan over low heat and cook the apples slowly until very soft. Stir occasionally.
			4. Add sugar to taste. The amount needed depends on the sweetness of the apples; sauce should be tart, not too sweet.
			5. Add a little lemon juice to taste.
			6. Pass the sauce through a food mill.
			7. If the sauce is too thin or watery, let simmer, uncovered, until thickened.
			8. Serve warm or cold with roast pork or duck.

Per 1 fl oz (29.57 mL): Calories, 25; Protein, 0 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 6 g; Fiber, 1 g; Sodium, 0 mg.

Note: Use tart cooking apples, such as Rome. Do not use Red Delicious.

Barbecue Sauce ♥

YIELD: ½ GAL (2 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 qt	1 L	Tomato purée	1. Place all ingredients in a heavy saucepan and bring to a boil. Reduce heat and simmer about 20 minutes, or until slightly reduced and flavors are well blended. Stir occasionally during cooking so the sauce does not scorch on the bottom.
1 pt	500 mL	Water	2. Adjust seasoning.
⅔ cup	150 mL	Worcestershire sauce	
½ cup	125 mL	Cider vinegar	
½ cup	125 mL	Vegetable oil	
8 oz	250 g	Onion, chopped fine	
4 tsp	20 mL	Finely chopped garlic	
2 oz	60 g	Sugar	
1 tbsp	15 mL	Dry mustard	
2 tsp	10 mL	Chili powder	
1 tsp	5 mL	Black pepper	
to taste	to taste	Salt	

Per 1 fl oz (29.57 mL): Calories, 25; Protein, 0 g; Fat, 2 g (60% cal.); Cholesterol, 0 mg; Carbohydrates, 3 g; Fiber, 0 g; Sodium, 30 mg.

Note: This sauce is not intended to be eaten as is but to be cooked with other foods. See recipes for Barbecued Spareribs (p. 429) and for Barbecued Pork Sandwich (p. 738).

Kansas City Barbecue Sauce



YIELD: 1¼ PT (625 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 pt	500 mL	Tomato purée	1. Combine all ingredients in a saucepan and stir. 2. Bring to a boil, then reduce heat to a simmer. Simmer 10–15 minutes, until slightly reduced and flavors are well blended. Stir occasionally during cooking to prevent scorching. 3. Adjust seasoning with additional salt if necessary.
4 fl oz	125 mL	Cider vinegar	
½ oz	15 g	Sugar	
2 tbsp	30 mL	Molasses	
1 tsp	5 mL	Ground cumin	
1–2 tsp	5–10 mL	Hot sauce	
1 tsp	5 mL	Celery seed	
2 tsp	10 mL	Onion powder	
1 tsp	5 mL	Garlic powder	
2 tsp	10 mL	Salt	
1 tsp	5 mL	Black pepper	

Per 1 fl oz (29.57 mL): Calories 20; Protein, <1 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 5 g; Fiber, <1 g; Sodium, 340 mg.

Eastern Carolina Barbecue Sauce



YIELD: 1 QT (1 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 qt	1 L	Cider vinegar	Combine all ingredients and mix well.
1½ oz	45 g	Brown sugar	
2 tbsp	30 mL	Hot pepper sauce	
2 tsp	10 mL	Cayenne	
(or to taste)	(or to taste)		
2 tsp	10 mL	Salt	
2 tsp	10 mL	Black pepper	

Per 1 fl oz (29.57 mL): Calories 10; Protein, 0 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 2 g; Fiber, 0 g; Sodium, 170 mg.

Mustard Barbecue Sauce



YIELD: 1 PT (500 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
2 oz	60 g	Butter	1. Melt the butter in a saucepan. 2. Add the grated onion. Cook the onion slowly without browning for about 4 minutes, until soft. 3. Stir in the remaining ingredients. Simmer about 15 minutes, until the flavors are well blended.
8 oz	250 g	Onion, grated	
8 oz	250 g	Prepared yellow mustard	
8 fl oz	250 mL	Cider vinegar	
5 oz	150 g	Brown sugar	
1 tsp	5 mL	Cayenne	
½ tsp	2 mL	Salt	
½ tsp	2 mL	Black pepper	

Per 1 fl oz (29.57 mL): Calories 80; Protein, <1 g; Fat, 3.5 g (39% cal.); Cholesterol, 10 mg; Carbohydrates, 11 g; Fiber, 1 g; Sodium, 260 mg.

Chile Barbecue Sauce ♥

YIELD: 2½ PT (1.25 L)

U.S.	METRIC	INGREDIENTS
1½ pt	750 mL	Bottled chili sauce
8 fl oz	250 mL	Soy sauce
2 oz	60 g	Dark brown sugar
1½ fl oz	45 mL	Worcestershire sauce
1 pt	500 mL	Water
6 fl oz	175 mL	Lemon juice
1 tbsp	15 mL	Hot red pepper sauce
2	2	Whole chipotle chiles
3 tbsp	45 mL	Chili powder

PROCEDURE

1. Combine all ingredients in a heavy saucepot. Bring to a boil.
2. Simmer 15 minutes.
3. Strain.
4. Adjust seasoning with salt if necessary. (It is not likely more salt will be needed; soy sauce is salty.)

Per 1 fl oz (29.57 mL): Calories, 35; Protein, 1 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 8 g; Fiber, 1 g; Sodium, 620 mg.

Soy Barbecue Sauce 🥬

YIELD: 1 QT (1 L)

U.S.	METRIC	INGREDIENTS
12 fl oz	375 mL	Japanese-style soy sauce
4 oz	125 mL	Brown sugar
8 fl oz	250 mL	Sake (Japanese rice wine) or dry sherry
8 fl oz	250 mL	Water
6 fl oz	175 mL	Lemon juice
2 tbsp	30 mL	Chopped fresh ginger root
1 tbsp	15 mL	Chopped garlic
8 fl oz	250 mL	Vegetable oil

PROCEDURE

1. In a saucepot, combine all ingredients except oil.
2. Bring to a simmer. Reduce by one-third.
3. Strain.
4. Add the oil. Before using, mix well to emulsify; this is easily done in a blender.

Per 1 fl oz (29.57 mL): Calories, 90; Protein, 1 g; Fat, 7 g (66% cal.); Cholesterol, 0 mg; Carbohydrates, 5 g; Fiber, 0 g; Sodium, 610 mg.

Fruit Salsa ♥ 🥬

YIELD: 2 LB (1 KG)

U.S.	METRIC	INGREDIENTS
8 oz	250 g	Honeydew melon, seeded, rind removed
8 oz	250 g	Papaya, peeled and seeded
8 oz	250 g	Mango, peeled and pitted
4 oz	125 g	Red bell pepper, cored and seeded
1 oz	30 g	Jalapeno, stemmed and seeded
3 oz	90 g	Red onion, cut brunoise
4 fl oz	125 mL	Lime juice
2 tbsp	30 mL	Chopped cilantro
to taste	to taste	Salt

Per 1 ounce (28.35 g): Calories, 15; Protein, 0 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 3 g; Fiber, 0 g; Sodium, 0 mg.

PROCEDURE

1. Chop the melon, papaya, mango, bell pepper, and jalapeno into fine dice. Be careful to save the juices that are released.
2. Combine the chopped fruit with their juices, peppers, onion, lime juice, and cilantro in a bowl.
3. Season to taste with salt.
4. Refrigerate until served.



Fruit Salsa

Shallot Oil

YIELD: 1 PT (500 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
2–3 tbsp	30 g	Shallots, chopped	1. Combine the chopped shallots and the oil in a jar. Shake well.
1 pt	500 mL	Flavorless oil, such as canola, corn, safflower, or grapeseed	2. Let stand 30 minutes. Refrigerate.
			3. The oil is ready to use as soon as it has taken on the desired flavor, which may be in 1–2 hours. After 2 days, strain the oil through a paper coffee filter. Store in refrigerator.

Per 1 fl oz (29.57 mL): Calories, 240; Protein, 0 g; Fat, 27 g (100% cal.); Cholesterol, 0 g; Carbohydrates, 0 g; Fiber, 0 g; Sodium, 0 mg.

VARIATIONS

Ginger Oil, Horseradish Oil, or Garlic Oil

Substitute ginger root, horseradish, or garlic for shallots in the basic recipe. For best results, chop ginger or horseradish very fine in a food processor, or grate with a fine-holed grater. For garlic oil, substitute olive oil for the flavorless oil if desired.

Lemon or Orange Oil

Substitute 3–4 tbsp (30 g) grated lemon or orange zest for shallots in the basic recipe.

Rosemary Oil, Sage Oil, Thyme Oil, or Oregano Oil

Substitute 3½ oz (100 g) chopped fresh rosemary, sage, thyme, or oregano for shallots in the basic recipe.

Cinnamon Oil, Cumin Oil, Curry Oil, Ginger Oil, or Paprika Oil

Substitute 3 tbsp (45 mL) of one of the above ground, dried spices for shallots in the basic recipe. In a small pan, combine the spice with just enough oil to make a thin paste. Heat gently just until the spice starts to give off an aroma. Be careful not to burn the spice. Paprika, especially, darkens quickly. Add the spice mixture to remaining oil. Let stand, refrigerate, and filter as in basic recipe.

Basil Oil, Parsley Oil, Chervil Oil, or Cilantro Oil

Select the desired quantity of one of the above fresh herbs. Drop into boiling water. Blanch 10 seconds. Drain and refresh under cold water. Drain again and pat dry with towels. Put the herbs in a blender and add a small amount of olive oil. Blend to make a paste. Measure the volume of the paste and add four times that volume of olive oil. Shake and let stand. Refrigerate and strain as in basic recipe.

Tartar Sauce

YIELD: APPROX. 1 QT (1 L)

U.S.	METRIC	INGREDIENTS	PROCEDURE
4 oz	125 g	Dill pickles or sour gherkins	1. Chop pickles and onions very fine. Chop the capers if large, or leave whole if small.
2 oz	60 g	Onions	2. Press the pickles and capers in a fine sieve, or squeeze out in a piece of cheesecloth so they don't make the sauce too liquid.
2 oz	60 g	Capers	3. Combine all ingredients in a stainless-steel bowl and mix well.
1 qt	1 L	Mayonnaise	
2 tbsp	30 mL	Chopped parsley	

Per 1 fl oz (29.57 mL): Calories, 200; Protein, 0 g; Fat, 22 g (98% cal.); Cholesterol, 15 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 240 mg.

VARIATIONS

Rémoulade Sauce

Add 1 tbsp (15 mL) anchovy paste or mashed anchovies to tartar sauce.

Aioli

YIELD: APPROX. 1 PT, 4 OZ (600 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
10	10	Garlic cloves	1. Crush the garlic to a fine paste with the salt.
⅛ tsp	0.5 mL	Salt	2. Add the egg yolks and beat until thoroughly combined.
3	3	Egg yolks	3. A few drops at a time, begin adding the olive oil, beating constantly. Do not add oil any faster than it can be absorbed.
1 pt	500 mL	Olive oil	4. After about half the oil is added, the mixture will be very stiff. Add a few drops of the lemon juice at this point.
1–2 tbsp	15–30 mL	Lemon juice	5. Continue adding the remaining oil gradually. From time to time, add a few more drops of the lemon juice. The finished aioli should be like a stiff mayonnaise. Adjust seasoning with salt if necessary.

Per 1 fl oz (29.57 mL): Calories, 200; Protein, 1 g; Fat, 22 g (99% cal.); Cholesterol, 30 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 15 mg

Cocktail Sauce ♥

YIELD: 2 QT (2 L)

U.S.	METRIC	INGREDIENTS
1 qt	1 L	Ketchup
2½ cups	600 mL	Chili sauce
1 cup	250 mL	Prepared horseradish
4 fl oz	125 mL	Lemon juice
2 tbsp	30 mL	Worcestershire sauce
dash	dash	Hot red pepper sauce

PROCEDURE

1. Combine all ingredients and mix.
2. Chill.

Per 1 fl oz (29.57 mL): Calories, 30; Protein, 1 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 7 g; Fiber, 0 g; Sodium, 330 mg.

Note: Serve as a dip with shrimp, crab, lobster, raw clams, or raw oysters.

Mignonette Sauce ♥

YIELD: 1 QT (1 L)

U.S.	METRIC	INGREDIENTS
1 qt	1 L	Wine vinegar, red or white
8 oz	250 g	Shallots, cut brunoise
1 tsp	5 mL	Salt
1 tsp	5 mL	White pepper
2 tsp	5 mL	Dried tarragon

PROCEDURE

1. Combine all ingredients.
2. Chill.
3. Serve 1 fl oz (30 mL) per portion as a cocktail sauce for oysters or clams on the half-shell.

Per 1 fl oz (29.57 mL): Calories, 5; Protein, 0 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 75 mg.



Mignonette Sauce

Fig Compote ♥

YIELD: 1 LB, 4 OZ (625 G)

U.S.	METRIC	INGREDIENTS
1 lb	500 g	Dried figs, preferably light rather than black figs
4 fl oz	125 mL	Lemon juice
8 fl oz	250 mL	Water
2 tbsp	30 mL	Sugar
¼ tsp	1 mL	Ground cumin
¼ tsp	1 mL	Cinnamon
⅛ tsp	0.5 mL	Ground cloves
⅛ tsp	0.5 mL	Cayenne

PROCEDURE

1. Trim figs by cutting off hard stem ends.
2. Cut the figs into medium dice.
3. Combine all ingredients in a saucepan.
4. Bring to a boil. Reduce heat and simmer until the liquid has evaporated.
5. Serve warm or cooled.

Per 1 ounce (28.35 g): Calories, 60; Protein, 1 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 17 g; Fiber, 2 g; Sodium, 0 mg.

Cold Snap Pea Coulis

YIELD: 14 FL OZ (420 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 lb	480 g	Snap peas, trimmed	1. Blanch the snap peas in boiling salted water 1 minute. 2. Drain and immediately refresh in ice water. Leave peas in the ice water until completely cold. Drain well.
10 fl oz	150 g	Water, ice cold	
1/3 oz	10 g	Salt	
1/4 tsp	1 g	Sugar	
1/6 oz	2 g	Xanthan gum	3. Place peas in a blender and add the water, salt, and sugar. Blend to a smooth purée. If blender is too small, purée in two batches, using about half the peas, water, salt, and sugar in each batch. 4. Strain the purée through a chinois, pressing down on the solids to extract all the liquid. 5. Rinse out and drain blender jar. Return the pea purée to the jar and add the xanthan gum. Blend until lightly thickened. 6. Strain again through a chinois. 7. Refrigerate until needed.

Per 1 fl oz (29.57 mL): Calories, 15; Protein, 1 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 3 g; Fiber, 1 g; Sodium, 280 mg.

Basil Sauce

YIELD: 7 FL OZ (210 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
2 oz	60 g	Basil leaves	1. Blanch the basil leaves in boiling salted water 2 minutes. 2. Drain and immediately refresh in ice water. Drain well.
1 pt	480 mL	Water, ice cold	
0.2 oz	5 g	Salt	3. Place the basil leaves and cold water in a blender and blend until smooth. 4. Strain through a chinois. 5. Place the basil liquid in a clean blender jar and add salt. 6. Turn the blender on low speed. With the machine running, add the Ultra-Tex and blend until the mixture is thickened, 2 minutes or more. 7. Strain through a chinois. 8. Refrigerate until needed. Use within 24 hours, or preferably the same day.
0.4 oz	10 g	Ultra-Tex 3	

Per 1 fl oz (29.57 mL): Calories, 10; Protein, 0 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 2 g; Fiber, 0 g; Sodium, 280 mg.

VARIATION

Parsley Sauce

Substitute parsley leaves for the basil. (Other herb sauces can be made the same way.)

Orange Fluid Gel

YIELD: 1 LB 4 OZ (600 G)

U.S.	METRIC	INGREDIENTS	PROCEDURE
3/4 cup	180 fl oz	Sugar	1. Combine the sugar, water, lemon juice, orange juice, and agar-agar in a stainless steel saucepan. Whip with a wire whip to combine all ingredients. 2. Bring to a boil and boil for 2 minutes. 3. Pour into a flat, stainless steel pan. Let sit 6 hours or overnight. The mixture will set up until very firm. 4. Break up the gel and place in a blender. Purée until smooth, scraping down the sides as necessary. 5. Add the raw butter and salt and blend in.
8 fl oz	240 fl oz	Water	
2 fl oz	60 mL	Lemon juice	
7 fl oz	210 mL	Orange juice	
1 1/2 tbsp	22 mL	Lemon zest, grated	
2 tbsp	30 mL	Orange zest, grated	
1 tbsp	15 mL	Agar-agar	
1 oz	30 g	Butter, unsalted	
to taste	to taste	Salt	

Per 1 oz (28.35 g): Calories 45; Protein, 0 g; Fat, 1 g (20% cal.); Cholesterol, 5 mg; Carbohydrates, 9 g; Fiber, 0 g; Sodium, 0 mg.

Corn Purée

YIELD: 24 OZ (720 G)

U.S.	METRIC	INGREDIENTS	PROCEDURE
6 ears	6 ears	Sweet corn	1. Cut the kernels from the ears of sweet corn. Scrape the cobs with the back of a knife to remove remaining pulp. Combine the pulp and the kernels. (From 6 ears you should have a yield of 1 lb, or 480 g.) 2. Cut each cob into a few small pieces so that they fit into a saucepan. 3. Combine the cobs, the corn, milk, salt, and pepper in a saucepan. Simmer until the corn is tender and corn flavor has infused the milk. 4. Remove the cobs and discard.
1½ pt	720 mL	Milk	
to taste	to taste	Salt	
to taste	to taste	White pepper	
4 fl oz	120 mL	Heavy cream	5. In a small pan, reduce the heavy cream to half its volume. 6. Strain the corn and reserve the liquid. 7. Put the corn in a blender and add enough of the reserved milk to make a soft purée. Blend until smooth. 8. With the blender running, gradually add the Ultra-Tex through the opening in the lid to thicken. 9. Blend in the butter and heavy cream. 10. Check the seasonings and add additional salt and pepper if needed.
2 tbsp	13 g	Ultra-Tex 8	
3 oz	90 g	Butter	

Per 1 oz (28.35 g): Calories 60; Protein, 1 g; Fat, 5 g (75% cal.); Cholesterol, 15 mg; Carbohydrates, 5 g; Fiber, 0 g; Sodium, 30 mg.

Parmesan Foam

YIELD: VARIABLE

U.S.	METRIC	INGREDIENTS	PROCEDURE
5 fl oz	150 mL	Milk	1. In a small saucepan, bring the milk to a boil. 2. Remove from the heat, add the cheese, and stir. 3. Let stand 30 minutes at room temperature. 4. Strain through a chinois. Press on the solids to extract all the liquid, but do not force the solids through strainer. 5. Mix in cream. Add salt to taste and refrigerate. 6. Pour the cream mixture into a foaming canister. Close canister and charge with a nitrous oxide (N₂O) cartridge. Make foam by inverting canister and pulling on lever.
4 oz	125 g	Grated Parmesan cheese	
4 fl oz	125 mL	Heavy cream	
to taste	to taste	Salt	

Per 1 ounce (28.35 g): Calories, 70; Protein, 4 g; Fat, 6 g (73% cal.); Cholesterol, 20 mg; Carbohydrates, 1 g; Fiber, 0 g; Sodium, 140 mg.

Maple Emulsion

YIELD: APPROX. 1 PT (480 ML)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 tbsp	15 mL	Shallot, minced	1. Combine shallot, wine, and thyme in a small saucepan. Over moderate heat, reduce by half.
¼ cup	60 mL	White wine	
1 sprig	1 sprig	Thyme, fresh	
¾ cup	180 mL	Heavy cream	2. Add heavy cream, stock, and maple syrup. Bring to a boil.
1 cup	240 mL	Chicken stock	3. Remove from heat. Remove the sprig of thyme.
⅓ cup	80 mL	Maple syrup (genuine, not artificial)	4. Mix in the lecithin powder.
1 tsp	5 mL	Lecithin powder	
to taste	to taste	Salt	
to taste	to taste	White pepper	
			5. Season to taste with salt and white pepper.
			6. To make foam, froth with an immersion blender (Fig. 9.9). Spoon off the froth to use as desired.

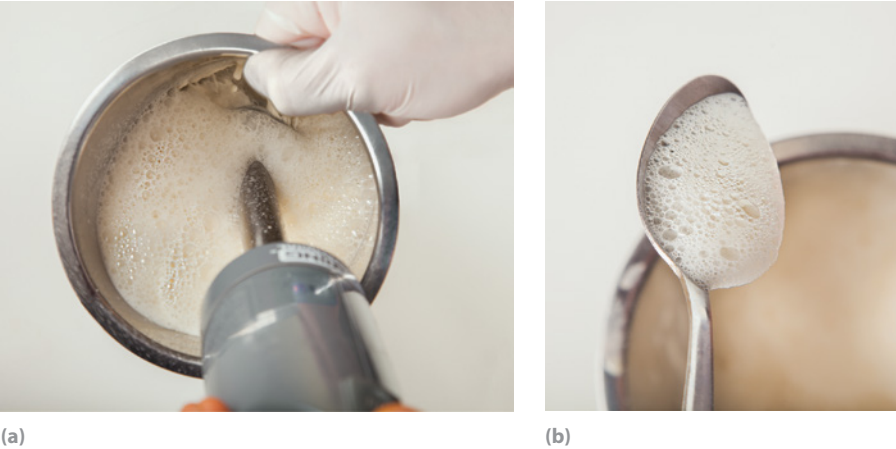
Per 1 fl oz (29.57 mL): Calories, 70; Protein, <1 g; Fat, 4.5 g (58% cal.); Cholesterol, 15 mg; Carbohydrates, 6 g; Fiber, 0 g; Sodium, 25 mg.

VARIATION

Bacon Thyme Emulsion

In step 2, add 3 strips of bacon and 2 additional sprigs of thyme to the heavy cream and stock. Increase stock to 1 ¼ cup (300 mL). After bringing the liquid to a boil, simmer 5–6 minutes to infuse flavors into stock. Strain, pressing down on the solids to extract all liquid. Continue with step 4.

FIGURE 9.9 Making a foam with an immersion blender.



Mustard Foam

YIELD: APPROX. 8 OZ (240 G)

U.S.	METRIC	INGREDIENTS	PROCEDURE
1 tbsp	15 mL	Shallot, chopped fine	1. Combine the shallot, wine, and thyme in a small saucepan. Reduce liquid to ¾ fl oz.
3 fl oz	90 mL	White wine	
1 sprig	1 sprig	Fresh thyme	2. Add the cider and reduce to 1 fl oz.
4 fl oz	120 mL	Apple cider	3. Add the cream and bring to a simmer.
8 fl oz	240 mL	Heavy cream	4. Stir in the mustard, lemon juice, and carrageenan. Season to taste with salt and pepper. Strain to remove thyme sprig.
2½ tbsp	37 mL	Dijon mustard	
¼ tsp	1 mL	Lemon juice	5. Place the mixture into a foaming canister and charge with 2 charges of nitrous oxide.
1 g	1 g	Iota carrageenan (see Note)	
to taste	to taste	Salt	6. At service time, foam by inverting the canister and pulling on the lever.
to taste	to taste	White pepper	

Per 1 fl oz (29.57 mL): Calories, 125; Protein, <1 g; Fat, 11 g (79% cal.); Cholesterol, 40 mg; Carbohydrates, 4 g; Fiber, 0 g; Sodium, 140 mg.

Note: In general, a ratio of 1 g carrageenan to 8 fl oz (240 mL) heavy cream is a good ratio to use for most foams. Note that, because of the small quantity, the quantity in the U.S. measures column is given in grams for ease of measurement.

Raspberry Beads

YIELD: VARIABLE

U.S.	METRIC	INGREDIENTS	PROCEDURE
3.3 oz	100 g	Apple juice	1. Combine the apple juice, raspberry juice, sugar, and sodium alginate in a blender. Blend until well combined.
1.3 oz	40 g	Raspberry juice	2. Let the mixture stand several hours in the refrigerator.
½ oz	15 g	Sugar	
0.03 oz	1 g	Sodium alginate	
0.08 oz	2.5 g	Calcium chloride	3. Dissolve the calcium chloride in water.
8 fl oz	250 g	Water	4. Using a syringe, drop droplets of raspberry mixture into the calcium solution. Leave in calcium bath about 1 minute (the longer they are left in, the firmer they become).
			5. Remove the beads from calcium bath and rinse in a strainer.

Per 1 ounce (28.35 g): Calories, 10; Protein, 0 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 2 g; Fiber, 0 g; Sodium, 0 mg.

Basil "Caviar" or Pearls

YIELD: APPROX. 4 OZ (120 G)

U.S.	METRIC	INGREDIENTS	PROCEDURE
as needed (see procedure)	as needed (see procedure)	Vegetable oil	1. Pour oil into a tall container, so that the oil is at least 5 inches (22 cm) deep.
			2. Place the container in the freezer and chill the oil to about 35°F (2°C).
¾ oz (about ½ cup)	22 g (about 120 mL)	Fresh basil	1. Blend the basil and water in a blender until smooth. Strain through a fine strainer, pressing on the solids to extract all liquid.
4 fl oz	120 mL	Water	2. Weigh out 125 g (4.4 oz) of the liquid. If necessary, add water to bring it up to the correct weight.
1½	1½	Gelatin sheets	3. Bloom the gelatin: soak in cold water until soft, remove from water, and squeeze gently. Set aside.
1.5 g (Use metric; quantity too small for U.S. measure.)	1.5 g	Agar-agar	4. Combine the basil liquid and agar-agar in a stainless steel saucepan. Whip together to combine.
			5. Bring to a boil and boil for 2 minutes.
			6. Remove from heat and stir in the gelatin until dissolved.
			7. Place the warm liquid in a squeeze bottle with a fine tip.
			8. Remove the oil from the freezer. Drop small droplets of the basil mixture into the oil (Fig. 9.10). The droplets will set as they sink slowly.
			9. Let sit for 3 minutes, then strain. Rinse the pearls carefully under warm water to remove excess oil. Reserve the strained oil for another use.

Per 1 ounce (28.35 g): Calories, 0; Protein, <1 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 0 g; Fiber, 0 g; Sodium, 0 mg.

FIGURE 9.10 Basil caviar.



(a)



(b)

Balsamic Sheet

YIELD: 250 G

U.S.	METRIC	INGREDIENTS
(Use metric measures. Agar-agar quantity is too small for U.S. measures.)	4	Gelatin sheets
	250 g	Balsamic vinegar
	3 g	Agar-agar

- PROCEDURE**
1. Bloom the gelatin: soak in cold water until soft, remove from water, and squeeze gently. Set aside.
 2. Combine the vinegar and agar in a stainless steel saucepan. Combine by whipping with a wire whip.
 3. Bring to a boil and boil for 2 minutes.
 4. Remove from the heat and stir in the gelatin. Let cool slightly.
 5. Line the bottom of a perfectly flat pan (9 × 13 in/23 × 33 cm or comparable size) with a sheet of acetate.
 6. Pour the vinegar mixture into the pan. The liquid should be 1/16–1/8 in. (approx. 2 mm) deep. Refrigerate until set (at least 1 hour).
 7. Cut into desired shapes.

Per 1 ounce (28.35 g): Calories, 30; Protein, <1 g; Fat, 0 g (0% cal.); Cholesterol, 0 mg; Carbohydrates, 5 g; Fiber, 0 g; Sodium, 10 mg.



FIGURE 9.11 Balsamic sheet.

Olive Oil Powder

YIELD: 2½ OZ (75 G)

U.S.	METRIC	INGREDIENTS
1½ oz	45 g	Olive oil
1 oz	30 g	Tapioca maltodextrin
pinch		Salt

- PROCEDURE**
1. Combine all ingredients in a blender until a powder forms.

VARIATIONS

Other oils can be made into powders using the same ratio of 60 percent oil to 40 percent maltodextrin. The maltodextrin is much lighter than the oil, so 40 percent by weight requires a much larger volume than the volume of oil. (The photo illustrates the ingredients only, not the proportions needed.)

Oily ingredients containing quantities of solids, such as peanut butter, can also be made into a powder, but the proportions change because of the solids. For **Peanut Butter Powder**, use a ratio of 75 percent peanut butter to 25 percent tapioca maltodextrin by weight. For example, 3 oz (90 g) peanut butter and 1 oz (30 g) tapioca maltodextrin yield 4 oz (120 g) peanut butter powder.



Back: olive oil and tapioca maltodextrin; Front: olive oil powder (Please note that the images are for visual identification only. The quantities shown are not in proportion to those needed in the recipe. Maltodextrin is very light, and 1 oz of it is a much larger quantity than that shown.)

ADDITIONAL RECIPES

These additional recipes may be found on your CulinarE-Companion recipe management program:

- | | | |
|--------------------------|-----------------------------------|-------------------------------|
| Chimichurri Sauce | Ponzu Sauce | Vegetable Caper Relish |
| Cumberland Sauce | Port Wine Sauce | White Bean Purée |
| Horseradish Sauce | Sour Cream Sauce | Yakitori Sauce |
| Pineapple Chutney | Sweet Corn and Chile Purée | |



TERMS FOR REVIEW

sauce

leading sauce

mother sauce

nappé

slurry

roux

white roux

blond roux

brown roux

beurre manié

whitewash

liaison

au sec

deglaze

monter au beurre

fond lié

small sauce

demi-glace

béchamel

velouté

espagnole

gastrique

coulis

clarified butter

beurre noisette

compound butter

emulsion

integral sauce

pan gravy

jus

au jus

salsa

relish

chutney

QUESTIONS FOR DISCUSSION

1. You have just prepared a suprême sauce, but your supervisor says it's too thin. It must be served in 5 minutes. What can you do to correct the sauce?
2. What are the two methods for preparing starches so they can be incorporated into hot liquids? Why are they necessary, and how do they work?
3. Why is it necessary to be able to thicken a sauce with a roux without making lumps if the sauce is going to be strained anyway?
4. You are preparing a gravy for a batch of Swiss steaks that are to be frozen for later use. What thickening agent will you use?
5. Name the five leading sauces and their major ingredients. List at least two small sauces made from each.
6. What precautions must be taken when finishing and holding allemande sauce?
7. What are the similarities between espagnole and pan gravy? the differences?
8. What precautions are necessary when making hollandaise to avoid overcooking the eggs or curdling the sauce?