

Chapter – 1 Stocks

1.1 Definition & Uses:

Stock (Fonds de Cuisine) is a liquid containing some of the soluble nutrients and flavors of food which are extracted by prolonged and gentle simmering (with the exception of fish stock, which require only 20 minutes). Such liquid is the foundation of soup's sauces and gravies. Stocks are the foundation of many important kitchen preparation therefore greatest possible care should be taken in their production.

A stock is a flavorful liquid prepared by simmering meaty bones from meat and poultry, seafood or and vegetables in water with aromatics until their flavor, aroma, colour, body and nutritive value is extracted. The liquid is then used for the preparation of soup, sauce, stew and also as braising and simmering cooking medium for vegetables and grains.

The word “fond” comes from the word “foundation”. Just as a foundation is the base for a house, fond is the base for much of cooking. Almost every culinary preparation requires a fond. For all practical purposes, “stock” and “fond” have the same meaning.

1.2 Classification of stocks

White stock	Brown Stock
White beef stock	Brown beef stock (estouffade)
White mutton stock	Brown mutton stock
White veal stock	Brown veal stock
White chicken stock	Brown game stock
Fish stock	

Types of Stock

There are four basic kinds of stock/fond: white stock (Fond Blanc), brown stock (Fond Brun), vegetable or neutral stock (Fond Maigre) and Fish Stock (Fume de Poisson). The classifications refer to the contents and method used to prepare the stock, not necessarily to color.

- a. **White stock:** is made with white meat or beef, veal bones, chicken carcasses, and aromatic vegetables. The bones or meat are put in cold liquid and slowly brought to a boil. The mirepoix (a flavoring base of diced vegetables is sweated in suitable fat and then added to the liquid before it develops any color. The mixture is reduced to a simmer to finish cooking. This stock is used for white sauce, blanquettes, fricassee, and poached dishes.
- b. **Brown stock:** is made with beef, veal, and poultry meat and bones. The bones are roasted until golden in color, not burnt. (Burnt bones and mirepoix will damage the stock's flavor and color). The mirepoix is added when the bones are three-quarters roasted; tomato product may also be added. When the bones and mirepoix are golden in color, cold liquid is added and the mixture is slowly brought to a boil, then reduced to a simmer to finish cooking. This stock is used for brown sauces and gravies, braised dishes, and meat glazes.

c. **Vegetable stock:** is a neutral stock composed of vegetables and aromatic herbs sautéed gently in butter, then cooked in liquid. This relatively new type of stock is gaining in popularity.

d. **Fish stock (Fume de Poisson):** is categorized separately from the other basic stocks because of its limited usage. The basis of fish preparation is the fumet or fond. It has been said that all fish produce a fumet are equal. Some fish produce better quality stock than others. The result from some fish are stocks which are too gelatinous and fishy tasting. Fish which are oily yield stock that has a bitter taste or that is milky.

Classical preparation calls for the bones of specific fish for fumet. Dover sole, turbot, brill and whiting are recommended for their superior flavor. However, the important thing is that the fish is fresh and that its flesh is white. A few guidelines are listed below.

1. Do not use trimmings from oily fish, such as salmon, mackerel, blue fish etc.
2. Flounder or lemon sole will work for sole fumet. Halibut for turbot and striped bass for brill.
3. The freshest local white fish by any name is what you want.

Sometimes the complementary juices of oyster, mussel or clam are added to fish fumet. This liquid should not be reduced. It is used as an additive only.

INGREDIENTS

Bones: bones are the major ingredients of stocks (except water, of course). Most of the flavor and body of stocks is derived from the bones of beef, veal, chicken, fish and occasionally lamb, pork, ham and game.

The kinds of bones determine the kind of stock:

- Chicken stock, of course is made from chicken bones.
- White stock is made from beef or veal bones or combination of the two. Chicken or pork bones are sometimes added in small quantity.
- Brown stock is made from beef or veal bones that have been browned in an oven.
- Fish stock is made from fish bones and trimmings left after filleting. The term *Fumet* is often used for a flavored fish stock.
- Lamb, game, turkey, and other stocks have specialized uses.

There are two basic facts that you should understand for this:

1. When certain connective tissues (called collagen) break down, they form *gelatin*. This gives body to stock, an important feature of its quality. A well made stock will thicken or even solidify when chilled.
2. *Cartilage* is the best source of gelatin in bones. Younger animals have more cartilage in their skeletons. *Knuckle bones*, on the joints of major bones have a lot of cartilage and are valued in stock making.

Meat: Because of its cost, meat is rarely used in stock making any more. Occasionally a broth is produced as a result of simmering meat or poultry. This broth can be used as a stock. Broth means a flavorful liquid obtained from the simmering of meats and vegetables.

Mirepoix: Mirepoix (pronounced meer pwah) is a combination of onions, carrots, and celery. It is a basic flavoring preparation that is used in all areas of cooking, not only for flavoring stocks, but also for sauces, soups, meats, poultry, fish, and vegetables. The classic mirepoix of decades

ago contained a wider variety of ingredients, sometimes including ham or bacon, leeks, and other vegetables, and one or more fresh herbs. The modern version is considerably simplified.

Acid Products: Acids, help dissolve connective tissue. Thus they are sometimes used in stock making to extract flavor and body from bones. *Tomato products* contribute flavor and some acid to brown stocks. They are not used for white stocks, because they would give an undesirable color. Also, when making brown stocks, be careful not to add too much tomato, because this may make stock cloudy.

Wine is occasionally used, especially for fish stocks. Its flavor contribution is more important than its acidity.

Scraps and Leftovers: in some kitchens stock pot is kept going all day, and various scraps are constantly being thrown in. this may or may not be a good idea. *The stockpot is not a garbage disposal*, and the final product is only as good as the ingredients and the care that goes into it.

Seasonings and Spices:

Salt is usually not added when making stocks. Stocks are never used as is, but reduced or concentrated. If salt has been added, it might become too concentrated. Some chefs salt stocks very lightly, because they feel it aids in extracting flavor.

Herbs and Spices should be used only lightly. They should never dominate a stock or have a pronounced flavor. These are usually tied in cheesecloth bag called *Sachet* (pronounced sa-shay). This sachet is tied by a string to the handle of the stockpot so it can be removed easily at any time.

Bouquet garni is another important term, generally used for a sachet that contains no spices, but only herbs, such as parsley, thyme, bay leaf, and celery leaves.

1.3 Rules of stock making: -

1. Always start the stock in cold water.
2. Salt should not be added to the stock.
3. Unsound meat or bones and decaying vegetables will give stock an unpleasant flavor and cause it to deteriorate quickly.
4. All fat must be removed from bones at the outset, as the stock becomes very greasy and becomes rancid soon.
5. Stock should only simmer. If allowed to boil, the agitation of particles of fat cause an emulsification and it becomes milky or cloudy.
6. Bouquet garni should be tied to a handle of the stock pot. Cut large pieces of vegetables, should be added later on, as it flavors the stock. If allowed to remain in the pot too long, the vegetables will begin to disintegrate, discoloring the stock.
7. The scum should be discarded.
8. For storing, the stock should be strained and the liquid should be cooled. No fat should be allowed to remain on surface, as heat is prevented from escaping and may cause the stock to turn, i.e. become sour.
9. Stock should be stored in refrigerator or cold room.
10. Stocks turn cloudy, if boiled too rapidly and if lid is used and not carefully strained and not skimmed properly.

Procedure:

Blanching Bones: many proteins dissolve in cold water but solidify into small particles and form a scum when heated. It is these particles that make the stock cloudy. The purpose of blanching bones is to remove the impurities and blood that cause cloudiness.

Procedure for blanching bones:

1. Rinse bones in cold water to wash off blood and impurities from surface. It is important if the bones are not fresh.
2. Place bones in stockpot and cover with cold water as impurities dissolve readily in cold water.
3. Bring water to a boil, and impurities solidify and form scum.

Drain bones and rinse well

The bones are now ready for stockpot.

1.4 Recipes of 1 liter of various stocks (White, Brown, Fish and Vegetable)

<u>(I) Basic White Stock</u>	for 1lts.
Bones (chicken, veal, beef)	600 gms.
Cold water	1 ½ lts.

Mirepoix

Onions chopped	70 gms.
Carrot, chopped	35 gms.
Celery, chopped	12 gms.

Sachet

Bay leaf	1 no.
Thyme	½ sprig.
Peppercorns	1 gm.
Parsley stems	1 stems
Whole cloves	2 nos.

Procedure:

1. Cut beef or veal bones into 3-4 inch pieces with meat saw. Rinse in cold water.
2. Blanch bones and place in stockpot and cover with water, and bring to a boil, simmer and remove scum.
3. Add mirepoix and sachet ingredients tied in cheesecloth.
4. Simmer for required length of time, skimming surface often as necessary.
 - Beef and veal: 2 hrs.
 - Chicken: 1 hrs.
 - Add water if necessary to keep bones covered.
5. Strain through a china cap/ chinois lined with several layers of cheesecloth. Cool in water bath and refrigerate.

<u>(II) Basic Brown Stock</u>	for 1 lts.
Bones (veal or beef)	500 g.
Cold water	1 ½ lts.

Mirepoix

Onion, chopped	70 gm.
Carrot, chopped	35 gm.
Celery, chopped	12 gm.
Tomatoes or tomato puree	75 gm.

Bouquet garni

Bay leaf	1 no.
Thyme	½ sprig.
Peppercorns	1gm.
Parsley stems	1 stem.
Whole cloves	2 nos.

Procedure:

1. Cut bones into pieces 3-4 inch in size with meat saw.
2. Place bones in roasting pan in a hot oven (200°C) and brown them well.
3. Remove bones from the pan and place in stockpot. Cover with cold water and bring to a simmer.
4. Drain and reserve the fat in the pan. Deglaze the pan with water and add to stock.
5. Toss the mirepoix with some of the reserved fat and brown well in the oven.
6. Add the browned mirepoix, the tomato puree, and the sachet to the stock pot.
7. Continue to simmer for 6-8 hours, skimming frequently. Add water as needed to cover the bones
8. Strain through a china cap lined with several layers of cheesecloth. Cool in water bath and refrigerate.

(III) Fish Stock

for 1 lt.

Butter	15 gm.
--------	--------

Mirepoix

Onion, chopped	50 gm.
Celery, chopped	10 gm.
Mushroom trimmings (opt.)	10 gm.
Bones from lean fish	400 gm.
White wine (dry)	10 ml.
Cold water	1 ¼ lit.

Sachet

Bay leaf	1 no.
Peppercorns	1gm.
Parsley stems	1-2 stems

Procedure:

1. Butter the bottom of a heavy stock pot or sauce pot. Place the mirepoix in the bottom of the pot and the bones over the top of it. Cover the bones loosely with a round of brown paper or parchment
2. Set the pot over low heat and cook slowly for about 5 min, until the bones are opaque and begin to exude juices.
3. Add the wine, bring to a simmer, then add water to cover, and the sachet.

4. Bring to a simmer again, skim, and let simmer for 45 min.
5. Strain through a china cap lined with several layers of cheesecloth. Cool in water bath and refrigerate.

<u>Vegetable stock:</u>	for 1 lit.
Cold water	1 ½ lts.
Onions chopped	100 g.
Carrot, chopped	100 g.
Celery, chopped	100 g.
Leeks	100g.

Sachet:

Bay leaf	1 no.
Thyme	½ sprig.
Peppercorns	1 gm.
Parsley stems	1 stems
Whole cloves	2 nos.

Procedure:

1. Roughly chop all vegetables.
2. Place all ingredients into a sauce pan, add the water and bring to the boil.
3. Allow to simmer for approximately 1 hour.
4. Skim if necessary. Strain and use.

1.5 Storage and Care of Stocks

The correct storage temperature for stocks is 1°C to 4°C.

1.6 Glazes and Aspic

Stocks are concentrated by boiling or simmering them to evaporate part of water. This is called reduction or reducing.

Reduction is an important technique in sauce making and many other areas of cooking, because it produces a more flavorful product by concentrating it. A reduced stock has more body, because the gelatin is so concentrated.

What are Glazes?

A glaze or glace (French word pronounced glahss) is a stock that is reduced until it coats the back of a spoon. It is so concentrated – reduced by three-fourths or more – that it is solid and rubbery when refrigerated.

Glazes are used as flavorings in sauce making and in some meat, poultry, fish, and vegetable preparations. Only small amounts are needed because they are very concentrated. They may also be as a base for sauces, such as a fish glaze for fish white wine sauce. Butter or cream may be added. The common glazes are: meat, chicken and fish glazes.

Procedure:

1. Reduce the stock over moderate heat.
2. Skim surface frequently.

3. When reduced by half to two thirds, strain into smaller, heavy saucepan and continue to reduce over lower heat until it is syrupy and coats a spoon.
 4. Pour into containers, cool, cover, and refrigerate.
 5. Glazes will keep for several weeks or longer if properly stored. They may also be frozen.
- Glazes diluted to original strength do not taste like the stocks they were made from. The long cooking changes the flavour somewhat.

Aspic:

Aspic is a savoury jelly made from meat stock and sometimes supplemented with gelatine to ensure that it sets. The food has a long culinary history, and appears in the form of moulded dishes, as a garnish, and as a glaze on some foods. It is also notoriously challenging and sometimes smelly to work with, leading some cooks to avoid it, if possible. Aspic is closely associated with traditional French cuisine and formal dining, and enjoyed an explosion of popularity in the mid twentieth century. After cooking, aspic can be poured into molds to be used as a standalone garnish, or it can be moulded with a variety of inclusions, typically meats, eggs and savoury vegetables. The aspic is allowed to cool so that it sets and is usually served cold, as heat will cause the aspic to liquefy. When used as a garnish, aspic is cubed into small portions to be eaten along with the main meal. When aspic is used in a moulded dish, each diner is offered an individually moulded aspic creation, or a slice of a large aspic mould. Aspic is also used to glaze foods, giving them a glassy look.

Convenience Bases: The cost, both time and materials, of making stocks in modern kitchen have lead to widespread use of concentrated convenience products known as bases. These are diluted with water to make flavoured liquids similar to stocks. Glazes can be considered as bases, and in fact they are the original bases, used long before today's manufacturers started producing convenience products.