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Basic Kitchen Techniques

UNIT 4





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4.1. Basic Kitchen Techniques

Various pre-preparation processes are needed to produce the food in accordance with the planned menus. Choosing the suitable equipment for production, cutting, chopping and choosing appropriate cooking methods play an important role in preparing food for presentation. The components in a ready-to-eat product go through many processes such as "cutting, peeling, chopping", and while working in the kitchen, it is imperative to be in a planned and systematic working order by using the methods determined by working on it beforehand.

All preparations for the arrangement of the working area in the kitchen and before cooking are called "mise en place" in French. "Mise en place", which means pre-preparation, ensures that food is produced on time and in a delicious way.

Preliminary: It covers the process of measuring, sorting, washing and transferring food items to suitable containers for chopping, and some of the basic terms used in the preliminary preparation process are international terms that kitchen workers should know. Some of these terms are:

Gastronorm

Containers of different depths and sizes are used in kitchens. These containers, also called bathtubs, are prepared according to international standards and their dimensions are adopted by industrial kitchen equipment manufacturers. These containers easily adapt to other equipment in kitchens (refrigerators, ovens, trolleys, etc.).

Chopping Boards

Choosing the appropriate chopping board is the stage before the "chopping and cooking" stages, and the material used in chopping boards may consist of different materials. However, the chopping boards must be dishwasher safe and suitable for the use of disinfecting chemicals. For this reason, wooden chopping boards are not preferred in kitchens as they are not good for washing, rinsing and sterilization processes. Another important issue is that each chopping board should only be used for chopping a certain type of food. In this method, which is adopted to prevent the contamination of microorganisms that will harm health, the necessary distinction is made by using color codes. The use of color codes is a method adopted not only for chopping boards but also for knives to be used.





Color Codes Used in Chopping Boards and Knives

White: In the preparation of milk and dairy products

Green: In all fruit and vegetable preparation

Blue: In seafood preparation

Yellow: In the preparation of poultry meat

Red: In the preparation of red meats

Brown: It is used in the preparation of all baked goods.

It is very important to choose the appropriate knife and use it in the right place with the right techniques. The biggest assistant of kitchen workers is knives. It is necessary to know how to use knives, chopping techniques and colour codes in order to work in the kitchen safely, quickly, practically and in accordance with health conditions.

Basic Kitchen Knives

Kitchen workers need quality and sharp knives with the right size and shape. Although each knife has a separate task, the dimensions of the knives vary according to their flexibility and the expertise of the people who will use them. Apart from knives for cutting and chopping, various tools and devices are used in kitchens, but every cook should have his own knives and small sets.

What to know in the selection and maintenance of knives?

- Quality blades should be purchased. (preferably from well-known brands)
- It should be sharp, strong and resistant to rust.
- The handle of the knife should be of a suitable size and weight for the hand of the person using it.
- Knives should be in boxes or cases for storage.
- Knives should not be placed in the dishwasher. Dishwashers shorten the life of the blade. After washing the knives with soapy water, they should not be left wet and should be dried with a paper towel.
- In order to prevent the blades from bending and dulling, hard objects should not be cut, and chopping should be done on a suitable ground.

A few types of knives are sufficient for a beginner kitchen worker. It is possible to list the basic kitchen knives as follows;





- Chef's knife
- Vegetable knife
- Butcher knife
- Fillet knife
- Chopper knife

Sharpening steel is also an essential part of knife sets, it is used to keep knives sharp and performing well.

4.2. Basic Chopping Techniques

After the necessary preparations are made, the chopping process begins. Holding the blade correctly and comfortably makes chopping easier and safer. In order to make a safe chopping, the knife should be grasped with the thumb and forefinger from the point where the handle part of the knife meets the metal. Another important point to note in this grip style, which provides convenience and control to the cooks, is that the fingertips holding the material to be cut are inverted to protect them from the knife. While chopping in this way, the knife should rest on the fingers and the cutting width should be adjusted. Since the cutting thickness of each material will be different, the oscillation of the knife in the hand will also be different.

Different chopping methods should be used as the cooking time, size, use and purpose of use of each material will differ. The chopping shapes are determined by international standards and the names given to the chopping styles are called by the same name all over the world.

Julienne: Julienne, allumette, or french cut, is a culinary knife cutting technique in which the food item is cut into long thinly sliced strips, similar to matchsticks. It can be applied to almost any vegetables and some types of fruit. After trimming the vegetables in lengths varying between 3-5 cm in length and 1,5-3 mm by side, julienne chopped vegetables can be used in consommé (clear) soups, vegetable soups or as a plate decoration.

Brunoise: It is made by cutting the Julienne form into cubes and cutting the material less than 1.50 mm and finely chopping it. If julienne chopping is not done properly, brunoise chopping cannot be done properly either. Care must be taken to ensure that all chopped pieces are the same size. Brunoise vegetables can be used as cooked or raw, as well as in consommé soups, in cold buffets to decorate cold meat dishes and





to decorate fish dishes. It is the most used chopping method as a preliminary preparation in the preparation of dishes.

Jardiniere: It is a slightly coarser form of chopping than brunoise is. This form of chopping is used in garnishes, salads, various vegetable and meat dishes. It is also called "small dice" in English. In this chopping method, the size of each piece varies according to the dish to be used, but it should be between 3-6 mm.

Macedoine: It is a slightly larger form of Jardinière and its dimensions are between 6-9 mm. Seven or eight of them are large enough to fit in a tablespoon. It is called "medium dice" in English. If it is cut into 2 cm cubes, it is called "large dice".

Paysanne: It is a square-shaped chopping method and all kinds of vegetables can be chopped in this way. It consists of squares that are 1x1 cm wide and 1 mm thick.

Matignon: Paysenne chopping is called matignon when it is randomly chopped. It is used in the preparation of various dishes. It is used in garnishes, vegetable dishes, and vegetable soups, which are prepared by straining or crushing.

Batonet: It is another type of chopping in the form of a rectangular prism with dimensions of 6x6 mm and 5-6 cm. Potatoes, carrots and celery can be chopped with this method. It is used in the preparation of various garnishes and decorations.

Vichy: It is a circular form of chopping, and the chopped pieces are 3mm thick. It is used in various decorations and as a garnish.

Chiffonade: It is generally a method of cutting the vegetables with green leaves. It is a cutting technique in which the leaves are put on top of each other. The leaves are formed as a tight roll and then finely chopped.

Mire Poix: The cut pieces in mire poix, also known as the mixture that is prepared to give flavour to the dishes. It should be in the form of cubes or close to the cube. It is the way of chopping root vegetables, vegetables and meats.

Although there are different groupings in mirepoix, which is prepared as a flavouring mixture, it can also be made from onions, celery, celery peels, leeks and bay leaves as well. Various spices (thyme, garlic, cloves,





etc.) are added to these basic mixtures in the preparation of some meat dishes and sauces.

4.3. Basic Cooking Techniques

Today's rapidly changing technological facilities also enabled the development of cooking techniques and led to the emergence of innovative and creative applications. Equipments that work with electricity also improved production, preparation, cooking, cooling and reheating processes. Thus, the shelf life of the food has also been extended.

Other Concepts About Cooking

Coagulation: It is the thickening of liquids by losing their fluidity. (The case of curdling of products that contain yoghurt, whey, etc.)

Caramelization: It is the process in which the products containing carbohydrates and sugar change colours under high heat (browning of sugar by heating in a pan)

Since each food item contains different components (protein, water, carbohydrate, oil, mineral substances, vitamins, etc.), it must be subjected to a separate cooking process. The elements to be considered according to the contents of the foods are as follows;

- **Water:** Water, which can turn into solid, liquid and steam, is present in different proportions in each food item. Water acts as a carrier for many nutrients and flavors. When the water in the food is lost, it dries up, and yet the vitamins and minerals dissolve in the water during cooking and mix with the water.
- **Minerals, Vitamins:** It is known that most of the water-soluble vitamins such as B and C vitamins pass into the cooking water of the food. For this reason, the cooking water of the food should be used. In cases where water cooking method is not preferred, steam cooking method should be used and the minerals and vitamins in the food should be preserved.
- **Proteins:** Proteins cooked under suitable cooking conditions are digested more easily, but overcooking food causes protein loss. For example, when meat is cooked at very high temperatures, burns will occur on its surfaces, and on the one hand, the amount of protein on the surface of the meat will be affected by this negative situation, while





protein loss will occur towards the inside of the meat. A similar situation occurs with overcooked eggs, overcooking solidifies the protein in the egg and makes it difficult to digest. Similarly, protein loss is experienced in dried legumes.

- Carbohydrates: The effect of cooking on carbohydrates is different than on proteins. The melting and softening properties of carbohydrates allow them to be digested more easily by cooking.
- Oils: Oils are used in cooking methods, and they release toxic components when exposed to high temperatures of heat. Therefore, it is necessary and healthy to use the oils without burning them.

Cooking Methods

Despite the long historical process of cooking, today's cooking methods are based on the basic techniques used by the primitive people. Cooking techniques, which are basically divided into dry cooking and water cooking, differ with the advancement of technology.

Cooking in Water

- Pre-Blanching
- Poaching
- Boiling (Boiling-Simmering)
- Cooking in Low Fire and Low Water (Brasing)
- Cooking with Own Juice (Stewing)
- Cooking in steam (Steaming)

Dry Heat Cooking Methods

- Grilling-Broiling
- Roasting
- Baking
- Sauteing
- Frying in Oil

Other Methods

- Microwave
- Cooking with infrared rays
- Vacuum cooking





Cooking Methods in Water

It is an easier method than other cooking methods. The amount of food to be cooked, the container to be used and the amount of water are important factors to consider. In this cooking method, the food is not only cooked with water but also in sauces. It is a healthier method than methods such as frying and roasting in oil. During cooking, the heat should be moderated after the water has reached boiling point. It should not be forgotten that the vitamins and minerals of the food pass into this water, thus it should not be wasted.

Pre-scalding (Blanching)

In this method, raw vegetables or meat are dipped directly into boiling water for a short time and then removed, the temperature of the water should be around 100 °C. The aim is to keep the colour of the vegetables vivid and remove the blood and dirtiness of the meat. This method both preserves the nutritious parts of the vegetables and strengthens the texture of the vegetables and remove the unwanted bitter flavours of the food.

Poaching

It is a cooking method that is applied at 71-82 °C in a liquid by controlling the temperature. This method is used for foods that can deteriorate when boiled. The amount of water should not be excessive. After the water reaches the boiling point, the temperature of the stove/cooker should be lowered.

Boiling (Boiling-Simmering)

The ingredients are boiled in water or cooked by throwing them into boiling water at 100°C. Boiling can be done with boiling water or by starting with cold water (cold water is put in the pot and the food is added into the food without waiting).

Brasing on Low Fire

In this method, the materials to be cooked are cooked on low heat by letting them release their own juice or by adding very little water. Cooking is also done by adding a small amount of water or broth to foods that have been previously sauteed and roasted at high temperatures. Various sauces and broths are also prepared with this method. Points to





be considered in this cooking method are to start cooking using little water and to determine well which type of cooking water will be used in the food. Mostly regular water is used, but meat, fish and chicken juices are also used.

Steaming (Steaming)

In this method, the food is cooked by steaming and it is ensured that its nutritional value and unique colors are preserved. It is an ever-increasing cooking method and commercial kitchens have special equipment for steaming.

Bain-Marie

It is a method (also known as water bath or double boiler) used to cook delicate foods by placing a bowl into another bigger bowl containing hot water. This method is also used for the preparation of egg and butter sauces and for melting chocolate. The food is cooked and thickened/coagulated/curdled by the heat coming from the container with hot water.

Dry Heat Cooking

The circulation of hot air around the food consists of cooking methods in hot oil or low-fat pan. In grill cooking, the food is cooked with the heat received from the bottom and the top. The direction and amount of heat vary depending on the type of meat or pastries in the oven cooking method. In oil cooking, cooking is done by sautéing in low oil or deep frying. With the microwave, mostly frozen food is thawed or the food can be heated in a short time. Infrared rays, on the other hand, serve to keep food warm rather than cooking. In the vacuuming (sous vide) technique, the prepared foodstuffs are placed in plastic bags in portions, and then they are vacuumed and cooked in tanks with boiling water circulation. In ovens that provide both heat and steam circulation, it can be done at low temperatures and for different durations depending on the quality of the material to be cooked.

Grilling (Grilling – Broiling)

Coal fire, wood, gas or electricity are used as a heat source in grill cooking and food is cooked by holding it onto these heat sources. Wires, skewers, pallets suitable for heating, flat cast irons are used to put on the heat source while the food is being cooked. Cooking is done by placing the





food to be grilled sometimes under the heat source (broiling) and sometimes on top (grilling). The factors to be considered in cooking on the grill are that the grill should not be too close to the source of the fire and hot fire should not be used. If these elements are not taken care of, the food will burn but not cook.

Baking (Roasting-Baking)

Furnaces are portable or fixed cooking tools in various sizes, they can work by using different heat sources and protect the heat inside. There are usually indicators showing the oven temperature in some ovens, however if there are no indicators in some ovens, the efficient use of the oven emerges with experience. In this method, hot air or steam circulates inside the oven and cooks the food. An ideal temperature for ovens is 150 °C and above depending on the type of food.

Sauteing and Roasting

It is a method based on high temperature and short-term cooking of food. After the food is cut into small pieces, it is cooked without oil or very little oil, first at high temperature and then at low temperature, with its own juice and without being covered with a lid. In the sauteed cooking method, the pan should not be stirred too much, the pan should be shaken to ensure that the contents are cooked evenly. In this method, the reason why the oil in the pan is hot is to create a crust on the outside of the food and to prevent the flavour and water of the food from coming out.

Cooking in Oil

In this method of cooking food in heated oil (frying), the most important element is the cooking pot. Deep-handled pans or pots should be used as frying pans. These containers can be stainless steel, iron, copper, etc. The frypot should be of the required depth and have a structure that heats up evenly on all sides. Many different types of oil are used in cooking in oil. Although the foods cooked in olive oil are delicious, the use of olive oil while frying is not preferred because the oil has a relatively lower burning point. Cooking oils should be stored in cool places away from sunlight.





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4.4. Determining Portions

In order to explain how the cost is calculated in food businesses and to control the final cost, we need standard recipes and portions. It is important to determine the type and amount of the ingredients and how many people a meal is for, because businesses have to prepare their cost-related strategies according to the changes in material prices. Standardisation of portions is part of the cost control process.

