

TVET CERTIFICATE IV in Culinary Arts

Fruits Based Products preparation

CUAFP401

Prepare Fruits

Competence

Credits: 5


Learning hours: 50

Sector: Hospitality and Tourism

Sub-sector: Culinary Arts

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Purpose statement

This module describes the performance outcomes, skills and knowledge required to application of cutting and preparation techniques for the particular style and dish, selecting, using and maintaining specialized equipment and tableware for preparing and serving fruit food items, evaluating quality of dishes and food items, including blending and balancing flavour and aromatics, correct flavour structure, correct acid balance, correct colour and plate presentation.

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Learning Unit 1: Select tools and equipment

LO1.1. Identify Fruits

I.O. Introduction

1. Definition:

1. Fruits are the edible fleshy part of a tree or a plant that contains seeds.
2. Fruits come in a variety of flavors, including sweet, sour, bittersweet, and many more. They are great sources of many nutrients required by our body.
3. The botanical definition of **fruit** is a seed-bearing part of a flowering plant or tree that can be eaten as food.
4. By those standards, foods such as avocados, cucumbers, squash, and yes, even tomatoes are all fruits.
5. From a culinary viewpoint, a fruit is usually thought of as any sweet-tasting plant product with seeds, whereas a vegetable is any savory or less sweet-tasting plant.

2. Importance of fruits

Fruits have many health benefits that help prevent complications like heart stroke, high blood pressure, cancer, heart disorders, and diabetes. They effectively fight skin disorders and promote healthy hair growth.

1. Fruits contain water content that maintains necessary moisture in the body.
2. Fruits contain a substance called fructose which is a better supplement than sugar.
3. All the fruits improve the sodium level content in the body and hence people with low sodium content should consume more fruits.
4. Dry fruits help in the proper development of bones in the body.
5. They also purify the blood in the body.
6. Fruits cause easy digestion in the body and hence people with digestive problems should consume fruits so that their bowels are cleaned.
7. Fruits also release energy instantly.

8. Fruits should be consumed during breakfast such as apple, mango, grapes and oranges and they maintain the hormonal imbalance in the body.
9. Fruits regulate the weight in the body by adding necessary supplements and reducing the unnecessary fat.
10. The three fruits i.e. avocado, apricot provide necessary supplements to the hair and hence many products related to hair cure are made of these fruits.
11. Many industries producing the cosmetic products are planning to add oils of these fruits to their products to provide the necessary supplement. Most of the fruits contain certain levels of potassium and hence they regulate the blood pressure in the body.
12. Some fruits have also prevented occurrence of mouth and digestive tract cancer.
13. Pregnant woman should consume fruits for the necessary supplements for the fetus in the body as protein is a very necessary supplement in the body.
14. For a pregnant woman folic acid production in the body is very necessary because it helps in the proper development of the embryo.
15. The Center for Disease Control and Prevention has recommended a person to consume at least 5 types of any fruits daily or at least a part of a fruit because it promotes healthy living.

- **Topic 1: The types of fruits**

1. Soft
2. hard
3. stone
4. tropical
5. exotic
6. melons

- 1. Soft fruits**

Are small fruits with soft skins, such as strawberries

any of various types of small edible stone less fruit, such as strawberries, raspberries, and currants(Currants are small dried black grapes, used especially in cakes), borne mainly on low-growing plants or bushes.

Soft fruit	
Raspberries	
Strawberries	
Loganberries	
Gooseberries	
Blackberries	
Blackcurrant	
Cranberry	

2. Hard fruits

Hard Fruit is a term used to categorize fruit.

Hard Fruit doesn’t necessarily refer to fruit that is hard as opposed to soft — all fruit is soft, compared to a rock.

Rather, it refers to fruit that has a relatively long shelf life, and ships a bit more easily, as opposed to soft fruit, such as strawberries or raspberries, which are extremely fragile and have a very short shelf life.




Hard fruit	
Apple	
Pear	
Most used in pastry	
Garnishing for meat	

In the Hard Fruit category are fruits such as apples, apricots, bananas, grapefruit, grapes, kiwi, lemons, limes, mandarin oranges, oranges, peaches, pears, plums, quince, tangerines, etc.

3. Stone fruit:





Is a fruit, also called a drupe, is a fruit with a large "stone" (pit) inside. The stone is the seed or the pit of the fruit. Fruits such as apricots, nectarines, cherries, plums, mangoes, and peaches are all examples of stone fruit. Stone fruit is edible but you do not eat the stones. Not all stone fruits have large stones in the interior.


Examples of stone fruits are peaches, nectarines, plums, lychees, mangoes, almonds, apricots and cherries.

Stone fruit			
Cherries	  		
Damsons			
Damsons			
Plums			
Apricots			
Peaches			
Avocado			

4. Tropical fruit

Tropical fruits are perishable crops which have a short shelf life (3–5 days after harvest at ambient conditions). Tropical fruit are a botanically diverse group of fruit indigenous to tropical regions. Their representatives come from numerous families, including Anacardiaceae (mango, hog plum, imbu), Sapindaceae (rambutan, taun, lychee, longan), Passifloraceae (passion fruit), Bromeliaceae (pineapple) and Annonaceae (custard apple, soursop, sugar apple).

Tropical fruits	   
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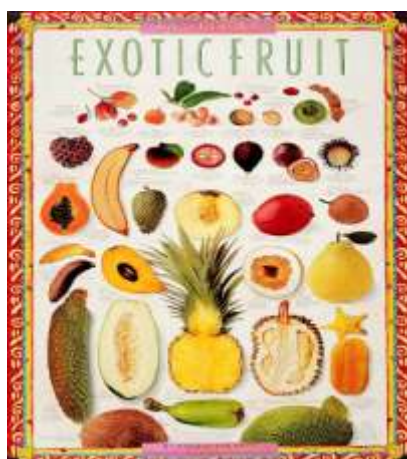
Banana papaya pineapple mango Red and white grapes Lychee Jack fruit	
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5. Exotic fruits

These are familiar fruits, the ones you can spot in any grocery store anywhere in the world.

There is a whole world of strange and amazing exotic fruit to be explored from all exotic parts of the globe stretching from the far east of Asia to the jungles of South America. You will surely recognize some but be amazed by many fruits that are out there.

They are exotic fruits, most of them found in Southeast Asia but also often at Asian food stores here in the States. Some are furry, some are fuchsia, and some have bright white flesh. They're weird and they're tasty and you should get to know them.



• Topic 2: Selection of quality signs of fruits

This section will help you to know the signs of a good fruits

1. **Crispy:** Crispiness or crispness is one of the most common food texture attributes. Crispiness refers to a hard food that emits a sound upon fracturing. Foods described as crisp tend not to show signs of deformation prior to fracture
2. **Firm:** having a solid, almost unyielding surface or structure. "The bed should be reasonably firm, but not too hard". If something is firm, it does not change much in shape when it is pressed but is not completely hard
3. **Not wilted:** fruit should not drying out, drooping, and withering of the leaves of a plant due to inadequate water supply, excessive transpiration, or vascular disease.

Quality points for fruits

- Soft fruits should appear fresh; there should be no shrinking, wilting or signs of mold.
- The color of certain soft fruits is an indication of ripeness.
- Hard fruits should not be bruised. Pear should not be over ripped.

Factors Affecting the Quality of Fruits

- Correct and protective packing
- Careful handling
- Correct storage temperature
- Controlled humidity

Checking of Fruits

- Uniformity in size and shape
- The correct ripening stage
- Condition of fruits
- Firm, spotless and smooth skin

LO1.2. Select tools and equipment

- TOPIC 1: Types of equipment and tools used

1. Large equipments

They include: Gas cooker, Electric cooker, deep fat fryers, dish washer, potatoes peelers, salamanders, microwave oven, blender, toaster, etc.....

2. Small equipment

They include: Knives, strainer, sauce pan, grater, casserole, wooden spoon, chopping board (cutting board), rolling pin, cups, plates, spoons, whiskers, skewer, baking trays, flasks, mixing bowls,...

Those tools are classified into:




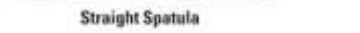



a. Hand tools












a tool held in the hand and operated without electricity or other power.









b. Electrical tools is all tool use Electrical power










c. Heavy equipment Burners for cooking, boiling, and steaming Cooking Ranges, Ovens Griddles, Big Pans Kettles Vegetable Cutters/Choppers, Mixers.








A. Hands tools (Knives, hand tools, and small equipments)

 <p>French knife or chef's knife</p>	<p>Most frequently used knife in the kitchen, for general-purpose chopping, slicing, dicing, and so on</p>
 <p>Santoku knife or Japanese cook's knife</p>	<p>A wide-bladed knife that is becoming increasingly popular as a substitute for the traditional chef's knife</p>
 <p>Cook's fork</p>	<p>A heavy, two-pronged fork with a long handle. Used for lifting and turning meats and other items.</p>
 <p>Straight Spatula</p>	<p>Or palette knife used mostly for spreading icing on cakes and for mixing and bowl scraping.</p>
 <p>Sandwich spreader</p>	<p>A short, stubby spatula. Used for spreading fillings and spreads on sandwiches</p>
 <p>Offset spatula</p>	<p>A broad blade, bent to keep the hand off hot surfaces. Used for turning and lifting eggs, pancakes, and meats on griddles, grills, sheet pans, and so on.</p>
 <p>Rubber spatula</p>	<p>Or scraper. A broad, flexible rubber or plastic tip on a long handle. Used to scrape bowls and pans. Also used for folding in egg foams or whipped cream</p>


 <p>Pie server</p>	A wedge-shaped offset spatula. Used for lifting pie wedges from pan
 <p>Bench scraper</p>	A broad, stiff piece of metal with a wooden handle on one edge. Used to cut pieces of dough and to scrape workbenches
 <p>Skimmer</p>	It used for skimming froth from liquids and for removing solid pieces from soups, stocks, and other liquids
 <p>Strainer</p>	A round-bottomed, cup-shaped tool made of screen-type mesh or perforated metal. Used for straining pasta, vegetables, and so on
 <p>Sieve</p>	A screen-type mesh supported in a round metal frame. Used for sifting flour and other dry ingredients
 <p>Colander</p>	A large perforated bowl made of stainless steel or aluminum. Used to drain washed or cooked vegetables, salad greens, pasta, and other foods
 <p>Food mill</p>	A tool with a hand-turned blade that forces foods through a perforated disk. Inter-changeable disks produce different coarseness or fineness. Used for puréeing foods
 <p>Box grater</p>	A four-sided metal box with grids of varying sizes. Used for shredding and grating vegetables, cheese, citrus rinds, and other foods.
 <p>Mandolin</p>	A manual slicing implement consisting of blades fitted in a flat metal or wood framework
 <p>Pastry bag and tubes</p>	Used for shaping and decorating with items such as cake icing, whipped cream, duchesse potatoes, and soft dough.
 <p>Pastry brush</p>	Used to brush items with egg wash, glaze, etc

 Liquid volume measure	Volume measures used for liquids have lips for easy Pouring
 Ladles	Are used for measuring and portioning liquids. The size, in ounces, is stamped on the handle
 Universal tong	Picking items up, commonly used when grilling
 Spaghetti tong	Used to serve or plate spaghetti
 Salad tong	Used to serve or plate salad
 Mixing bowls	Used in the preparation of food for combining ingredients
 Wok	Used for stir-frying,
 Bain-marie inserts	Bain-marie is cylindrical stainless-steel container. Used for storage and for holding foods in a bain-marie (water bath)

 <p>Sheet pan</p>	<p>A shallow rectangular pan for baking cakes, rolls, and cookies, and for baking or broiling certain meats and fish</p>
 <p>Bake pan</p>	<p>A rectangular pan. Used for general baking.</p>
 <p>Roasting pan</p>	<p>A large rectangular pan, deeper and heavier than a bake pan. Used for roasting meats and poultry.</p>
 <p>Madeleine pan</p>	<p>used for baking madeleines</p>
 <p>Loaf pan Pullman pan</p>	<p>Used for baking loaf breads</p>
 <p>Springform pan</p>	<p>A cake pan with a removable bottom. Used primarily for baking cheesecake</p>
 <p>Rolling pins</p>	<p>Used in the bakeshop for rolling out dough.</p>
 <p>Stockpot Stockpot with spigot</p>	<p>A large, deep, straight-sided pot for preparing stocks and simmering large quantities of liquids</p>
 <p>Saucepot</p>	<p>A round pot of medium depth. Similar to a stockpot but shallower, making stirring or mixing easier</p>

 <p>Brazier</p>	<p>A round, broad, shallow, heavy-duty pot with straight sides. Used for browning, braising, and stewing meat</p>
 <p>Saucepan</p>	<p>Similar to a small, shallow, light saucepot, but with one long handle instead of two loop handles</p>
 <p>Straight-sided sauté pan</p>	<p>Similar to a shallow, straight-sided saucepan, but heavier. Used for browning, sautéing, and frying</p>
 <p>Slope-sided sauté pan</p>	<p>Also called fry pan. Used for general sautéing and frying of meats, fish, vegetables, and egg</p>
 <p>Double boiler</p>	<p>A pot with two sections. The lower section, similar to a stockpot, holds boiling water. The upper section holds foods that must be cooked at low temperatures and cannot be cooked over direct heat. Size of top section</p>
<p>2. Electrical or food processing equipments</p>	
<p>Dough mixer/Stand Mixer</p> 	<p>Used to mix dough</p>
 <p>Blender</p>	<p>Used to mix or puree food</p>

3. Heavy cooking equipments

 <p>Ring-top range</p> <p>Portable induction cooktop</p> <p>Ring-top range</p>	<p>Heavy-duty flat top. Burners covered with heavy cast steel. To support heavy pots.</p>
 <p>OPEN BURNER GAZ RANGE WITH GRIDDLE</p>	<p>Open burners, can be either electric coils or gas flames. Cooking space is limited</p>
 <p>MICROWAVE OVEN</p>	<p>it generates microwave radiation, which creates heat inside the food. It is used to reheat food</p>
 <p>Deck oven.</p>	<p>Deck ovens are so called because the items to be baked or roasted either on sheet pans or, in the case of some breads, freestanding are placed directly on the bottom, or deck, of the oven</p>

- **TOPIC 2: SELECTION CRITERIA OF TOOLS& EQUIPMENT USED**

In fruit based product preparation we select tools and equipment according to:

1. Recipe: By setting of directions with a list of ingredients for making or preparing something, especially food
2. Quantity : By an exact or specified amount or measure
3. Preparation method
4. Usage of tools and equipment

LO.1.3 Maintain tools and equipment used in fruit based products

- **TOPIC 1. Basic maintenance of tools and equipment**

The maintenance of tools and equipment always must be clean, inspect and care for tools. Make it a habit to clean tools after each use before you return them to storage. Wipe them down with a rag or old towel and be sure they are free of dust, grease and debris before you put them into their proper places. This is also an opportunity to look for any damage or defects.

Proper care and maintenance

1. Use tools for their intended purpose only.
2. Clean the tools immediately after using them.
3. Keep tools in their proper places.
4. Always cover sharp pointed tools.
5. Be sure are in good working condition before using them.
6. Handle and use tools properly

Tips to care for your blender

1. If you use a blender everyday or on certain occasions, maintaining it is very important. This is how to maintain your blender.
2. Before you clean the blender, unplug the appliance and detach all the accessories.
3. Use a damp cloth to clean the outer area of the blender base. The plug, cord or motor base should not be immersed in water or any liquids to protect against the risk of electric shock. However, the parts other than the blender base can be washed in water.
4. Keep the appliance well ventilated when it is not in use for a long time.
5. As the cutting edges of the blades are quite sharp, clean and handle it with care to avoid injuries.

6. The appliance should not be operated if the cord or plug is damaged to avoid further damages.
7. To save electricity, unplug the blender when not in use.
8. Overloading the blender should be strictly avoided. This can hurt the blades and permanently damage the appliance.
9. The blender should not be run empty as it may damage the product. Ensure there is something in the blender before you operate it. Also, make sure that the lid is in place before you operate the machine.
10. Keep the blender in a dry area. Ensure there is no moisture left before you store it.
11. The blender should not be operated by children to avoid injuries.

Learning Unit 2: Prepare fruits products

L.O 2.1 Prepare workplace, tools and equipment

- Topic 1: Hygienic procedures of workplace, tools and equipment

The kitchen is a hotspot for bacteria and parasites. This is why good kitchen hygiene during both food preparation and cooking are extremely critical in terms of preventing food borne illnesses.

Cleaning equipment in a kitchen area helps to keep food protected from contamination.

1. Moveable equipment

Moveable equipment is recommended as they can be moved around and this helps to facilitate cleaning.

2. Smooth surfaces

Food equipment and utensils should ideally be made of smooth, non-absorbent materials that are free from small holes or spaces where minute amounts of food could become trapped.

3. Dismantling equipment to clean it

Cooking equipment should be systematically dismantled, decarbonised, degreased,

and decaled. This not only keeps it clean but also helps to increase its efficiency, keep it in safe working order and reduce the potential of fires starting.

Be sure appliances are unplugged before touching sharp edges on blenders, can openers or mixers, etc.

Quality counts in a kitchen so be sure to stock it with sturdy, reliable and quality equipment.

1. Warning signs

Dangerous kitchen machinery and equipment should have warning signs displayed near to them, and you should already follow the manufacturer's instructions when cleaning them.

2. Typical kitchen equipment that needs to be regularly cleaned

- A. Aprons
- B. Baking dishes
- C. Blenders
- D. Can openers
- E. Cheese graters
- F. Cutting boards
- G. Chefs knife
- H. Gloves
- I. Kitchen sears
- J. Kitchen towels
- K. Measuring bows
- L. Measuring spoons
- M. Microwaves
- N. Mixing bowls
- O. Oven mitts
- P. Paring knife
- Q. Pots and pans
- R. Saucepans

- s. Salad spinners
- T. Serrated knives
- U. Steamers
- v. Tongs
- w. Vegetable peelers
- x. Whisks

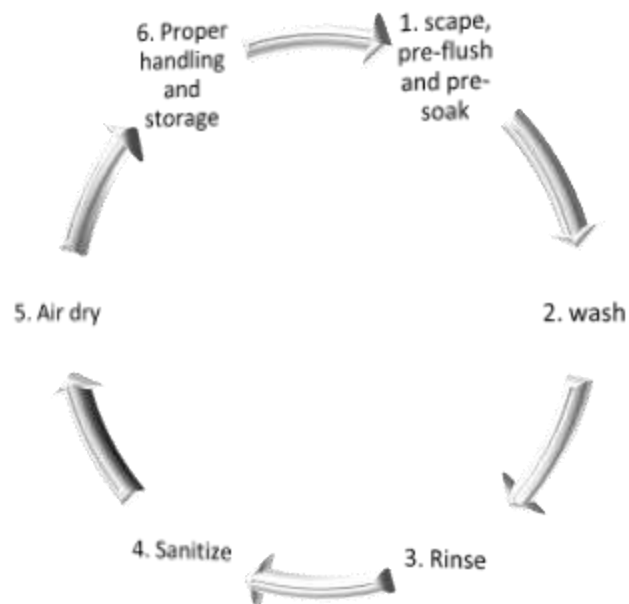
Damaged equipment

Always be on the lookout for damaged equipment with loose parts, these can lead to the physical contamination of food, harbour bacteria and result in injured staff. Examples of damaged equipment include broken chopping boards, loose wall or floor tiles, broken fridge handles and oil leaking from machinery.

Low kitchen hygiene rules:

1. Cleaning
2. Sterilizing
3. Sanitizing

Ways of cleaning work place, tools and equipments.



1. **Detergents** – remove grease and dirt but do not kill bacteria, e.g. soap, wash-up liquid, washing powder, use with hot water for best results.
2. **Disinfectants** (sometimes referred to as sanitizers) – reduce the number of bacteria to a safe level, achieved by the use of very hot water, at 82°C or hotter, steam or chemical disinfectants.
3. **Sanitizers** : combined detergent and disinfectant.
4. **Sterilants**: kill all bacteria. Always use cleaning products according to the manufacturer's instructions It is important to disinfect/sanitize
Food contact surfaces e.g. chopping boards, preparation tables etc.
Hand contact surfaces e.g. handle – doors, refrigerators, freezers.
Contamination and bacterial multiplication hazards, e.g. cloths mops

L.O 2.2 Identify fruit based product

- **Topic 1: Product types of fruit**

1. **JAMS**: Jam consists of fruit that's crushed or chopped and cooked with sugar (and sometimes pectin and an acid) until the pieces of fruit are soft and lose their shape. As the mixture cooks, water evaporates and it thickens to a spreadable consistency, though it still may have some pieces of fruit. Sugar acts as the primary preservative.

Strawberry jam



2. **JELLY**: The primary difference between jam and jelly is that jelly is strained for a gem-like clarity without fruit solids. To get that bright, crystal-clear consistency,

most fruits are crushed and cooked to extract their juice. The mixture is strained through a jelly bag, which is made of a fine mesh fabric that ensures that no fruit particles slip through. If you want to DIY (do it yourself) it, use a metal strainer with several layers of cheesecloth. Since dry fabric absorbs flavor from the juice, the jelly bag (or cheesecloth) should be moistened first with cold water, then wrung out to get rid of any excess moisture. After straining, the juice is boiled rapidly with sugar (and sometimes pectin) so that when it sets, it holds its shape. Jelly is typically firmer than jam, but not so firm that it's gummy-like. According to government regulations, jelly must contain at least 55% fruit juice.



- 3. COMPOTE:** Compote can be made with fresh or dried fruit (whole or cut into pieces) that's slowly cooked in a sugar syrup (sometimes containing liquor and spices). Slow cooking is important for the fruit to maintain shape. strawberry compote



- 4. FRUITS BUTTER:** Unlike jellies, jams, and marmalades, fruit butter is not jellied. Instead, butters rely on the fruit's natural body to create thickness—the fruit pulp is cooked with sugar for a longer period of time in order to achieve a dense texture (longer cooking means more moisture evaporation!) Fruits containing less moisture to begin with (like apples and pears) lend themselves to making deeply flavored butters.

According to FDA rules, products labeled 'fruit butter' must be made from these eight fruits: apples, apricots, grapes, peaches, pears, plums, prunes, and quince.



- 5. Juice** is a drink made from the extraction or pressing of the natural liquid contained in fruit and vegetables. It can also refer to liquids that are flavored with concentrate or other biological food sources, such as meat or seafood, such as clam juice. Juice is commonly consumed as a beverage or used as an ingredient or flavoring in foods or other beverages, as for smoothies. Juice emerged as a popular beverage choice after the development of pasteurization methods enabled its preservation without using fermentation (which is used in wine production). The largest fruit juice consumers are New Zealand (nearly a cup, or 8 ounces, each day) and Colombia (more than three quarters of a cup each day). Fruit juice consumption on average increases with country income level.



- 6. Fruit sauces (coulis):** is a form of thin **sauce** made from puréed and strained **fruits**. ... **Fruit** coulis are most often used on desserts.



- 7. Fruit Salads:** **Fruit salad** is a dish consisting of various kinds of fruit, sometimes served in a liquid, either their own juices or a syrup. In different forms, fruit salad can be served as an appetizer, a side salad, or a dessert. When served as an appetizer or dessert, a fruit salad is sometimes known as a **fruit cocktail** (often connoting a canned product), or **fruit cup** (when served in a small container).

There are many types of fruit salad, ranging from the basic (no nuts, marshmallows, or dressing) to the moderately sweet (Waldorf salad) to the sweet (ambrosia salad). Another "salad"

containing fruit is a jello salad, with its many variations. Fruit cocktail is well-defined in the US to mean a well-distributed mixture of small diced pieces of (from highest percentage to lowest) peaches, pears, pineapple, grapes, and cherry halves. Fruit salad may also be canned (with larger pieces of fruit than a cocktail).



8. **Desserts:** A **dessert** is a type of food that is eaten after lunch or dinner. It is usually a sweet food, like ice cream, cookies, and cakes. In some countries, cheeses such as Brie cheese and fruit are served as dessert.^[1] Some desserts are decorated, like birthday cakes. Others are simple, like pudding. Many desserts are baked (cooked in an oven). Some desserts are served with whipped cream as a topping.

The term *dessert* can apply to many confections, such as biscuits, cakes, cookies, custards, gelatin's, ice creams, pastries, pies, puddings, sweet soups, and tarts. Fruit is also commonly found in dessert courses because of its naturally occurring sweetness. Some cultures sweeten foods that are more commonly savory to create desserts.



9. Fruit Flavours: Fruit flavour is a combination of aroma and **taste** sensations. Conjugation of sugars, acids, phenolics, and hundreds of volatile compounds contribute to the **fruit flavour**. However, **flavour** and aroma depend on the variety, edaphoclimatic conditions, agronomical practices and postharvest handling.



L.O 2.3 Perform Mise En Place of fruit

- **Topic 1: Peeling techniques of fruits**

Peeling is one of the integral parts of a food processing, and the majority of agricultural crops need to be peeled in order to remove at the initial stage of food processing (O'Beirne et al. 2014). Peeling removes inedible portion (peel, seeds, and stalk) of fruits and vegetables. However, it increases due to acceleration of physiological process and the exposure of the tissues to microorganisms. The shelf-life and quality of fresh-cut produce could be compromised with the peeling.

Minimizing product losses

1. Types of products
2. Minimizing energy and chemical usage.
3. Minimizing heat ring formation
4. Minimizing the environmental pollution

Types of peeling

1. Manual Peeling

Manual peeling is performed using stationary or rotatory hand peelers or knives against the surface of fruits and vegetables. Fresh-cut fruit and vegetables with good microbiological quality can be obtained by this method. Klaiber et al. (2005) reported that knife peeling caused less wounding in comparison to abrasion peeling in carrots.

2. Mechanical Peeling

Mechanical peeling includes different types of process that interact directly with skin and then removes the skin. Common commercial mechanical peelers are abrasive devices, drums, rollers, knives and milling cutters (Shirmohammadi et al. 2012). Mechanical peelers can provide high quality fresh final products and they are environmental friendly and nontoxic.

3. Lye Peeling

Lye peeling is one of the oldest methods used in the food industry. This method is used mainly for peeling fruits and vegetables. It involves the immersion of a product in alkaline solution at high temperatures (90–100 °C) (Di Matteo et al. [2012](#)). In lye peeling, the lye solution dissolves the pectic and hemicellulosic material in the cell walls by cleaving the α -(1 → 4) bond between the individual galacturonic acid units. The removal of the pectin weakens the network of cellulose micro fibrils and released the skin by collapsing the skin. Finally

4. Enzyme peeling

Enzymatic peeling consists of treatment with a high-activity enzymatic solution containing polysaccharide hydrolytic enzymes, especially pectinases, celluloses, and hemicelluloses since pectin, cellulose and hemicellulose are the polysaccharides most responsible for the adherence of the peel to the fruit. These enzymatic preparations were obtained by fermentation of genetically modified fungal micro-organisms produced by biotechnological industries (Suutarinen et al. [2003](#)). Enzymatic peeling is mostly applied in the case of citrus fruits' peeling.

5. Thermal peeling

Thermal peeling is used for thick-skinned vegetables and this method can be performed by wet heat (steam) or dry heat (flame, infrared, and hot gases). Steam peeling is one of the most popular among modern methods of peeling. Its widespread application is due to its high automation, precise control of time, temperature and pressure; and reduced environmental pollution as compared to chemical peeling (Garrote et al. [2000](#)). Steam peeling has been explained as a combination of two phenomena. First it builds up internal pressure due to high temperature which causes mechanical failure of the cell, and secondly it affects the tissue resulting the loss of rigidity and reduced turgor pressure, melting and breakdown or disorganization of the cell wall substances, such as pectin and polysaccharides (Garrote et al. [2000](#)).

- **TOPIC 2: Cutting techniques of fruits**

Cutting vegetables and fruits is a serious business. As much as you can avoid the importance of a perfect cut, it is actually very important for good cooking.

So, whether you are seeking to be a professional chef or just want to up your game in chopping and cutting fruits and vegetables, it is important to learn the significance of different cut types and how you can master them.

1. Julienne

The julienne cut is basically a thin stick-shaped cut that is usually made from a squared-off item. Once the squaring is done, you will have to make length-wise slices at $1/8 \times 1/8 \times 2$ -inches dimensions.

This way, you get really thin rectangular cuts of food. The cuts are also known as matchstick cuts because it will resemble the same shape.

2. Fine Julienne

The cutting mechanism is same as Julienne except that in the fine julienne, you will have to further reduce the width of the slices and the dimensions will be $1/16 \times 1/16 \times 2$ -inches. From this size, you can imagine the small width of each stick.

3. Batonnet

Batonnet is a French word and the translation is little sticks. This is exactly what you have to do in the cutting.

In this cut, you will have to follow the dimensions of $1/4 \times 1/4 \times 2$ -2.5-inches size. This will also look like sticks only that it is a bit wider than the julienne cut. This type of chopping is widely required in French cooking.

4. The Baton

Baton is the largest cut in length that you can make on any vegetable. The dimensions of this cut are $1/2 \times 1/2 \times 2$ -1/2-inches. From the dimensions, you can picture out that the cut is wider than other cuts that we have discussed so far.

The Baton cut is mostly used for salad cutting or for dressing purposes.

5. Brunoise Dice

This is the smallest cut and is square shaped. The dimension of this cut is $\frac{1}{8} \times \frac{1}{8} \times \frac{1}{8}$ -inches. The cut is suitable for garnishes.

This is a complicated cut and you need a lot of practice to master it. There is also a fine brunoise cut that goes at $\frac{1}{16}$ -inches dimensions for each side.

6. Small Dice

The dimension of smallest dice cut is $\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}$ -inches. These are also cube shaped cuts of vegetables and requires completely watchful attempt. This is a larger version of Brunoise Dice and can be used in various cooking applications.

7. Medium Dice

The medium dice is also a cube shaped cutting of vegetables. The only difference here is of a size. The dimension of this dice cut is $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$ -inches.

8. Large Dice

The size of large dice is $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ -inches. These cubes are primarily used for long cooking dishes and stews.

This kind of cut is relatively quicker and looks really professional. However, there is a lot of food waste in larger dices.

9. Paysanne

Paysanne is basically a kind of informal French cut. You can cut fruits, vegetables, and roots in this style. The dimension is $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{8}$ -inches. However, the shape of the cut is not too specific. It will depend on the shape of object you are cutting.

10. Chiffonade

Chiffonade is basically creating thin strips of leafy vegetables and fresh herbs. The leaves are stacked and rolled to slice perpendicularly. This way, you can create strips very thin in profile.



• **Topic 3: Cooking methods**

The purpose of cooking.

1. Removing excess water from fruits
2. Cooking fruits and dissolving pectin
3. Allowing the sugar dissolution
4. Pasteurizing jam.

Fruits are generally cooked in the following ways:

1. Poaching (Soft fruits)
2. Baking (Apples)
3. Steaming (Apple, Pears)
4. Deep frying (Pineapple, Apples, Banana)
5. roasting
6. boiling

• **Topic 4: Cleaning techniques of fruits**

1. Washing fruits by using three system containers
2. Wiping the fruits

Tips for cleaning fruits

1. Wash your hands for 20 seconds with warm water and soap before and after preparing fresh produce.
2. If damage or bruising occurs before eating or handling, cut away the damaged or bruised areas before preparing or eating.
3. Rinse produce BEFORE you peel it, so dirt and bacteria aren't transferred from the knife onto the fruit or vegetable.
4. Gently rub produce while holding under plain running water. There's no need to use soap or a produce wash.
5. Use a clean vegetable brush to scrub firm produce, such as melons and cucumbers.
6. Dry produce with a clean cloth or paper towel to further reduce bacteria that may be present.
7. Remove the outermost leaves of a head of fruit.

LO 2.4 Prepare fruit based products

• Topic 1: Preparation techniques for

JAMS

1. Pineapple jam

Ingredients

- 1) 1.8 kg of fresh pineapple
- 2) 800 g of sugar
- 3) Lemon juice

Preparation method

1. Peel pineapple and remove eyes. Cut it into slices lengthways and remove the ligneous portion and re-cut flesh into cubes.

2. Mix sugar with 25cl of water in a casserole, heat while until sugar till stirring, then boil. Cook until large pearls(113°C on the thermometer)
3. Add pineapple cubes and lemon juice, and let boil again. Carefully skim, and continue to cook over high heat for about 10minutes, frequently stirring so that the jam does not stick, until the fruits are translucent.
4. Check cooking using a cold plate or thermometer. Remove from heat and put in pots.

Additional information

1. Yield: about 4 pots of 375g.
2. Cooking time : 30 minutes

Variant: prepare syrup by replacing the lemon or grapefruit juice or pure water.

2. Banana jam

Ingredients.

1. 1 lemon
2. 1.4 kg of bananas (or 1kg net)
3. 700 g of sugar
4. 1 teaspoon of cinnamon powder

Preparation method

1. Take the lemon zest of chop it, cut the lemon and press to extract the juice.
2. Peel bananas and cut them into slices about 1 cm thick. Sprinkle them with lemon juice to prevent darkening.
3. Pour the granulated sugar and 20 cl of water in the jam casserole, gently the whole while stirring with a wooden spoon, then boil, skim and cook until small pearl (110°C at the thermometer).
4. Add bananas, lemon zest and cinnamon, disturbing the boiling, skim and cook over high heat for about 10mins until the mixture is thickened.
5. Check the cooking with the with a cold plate or the thermometer.

2. JELLY

1. Strawberry jelly

Ingredients

1. 1.5 kg of strawberries
2. 15 cl of apple juice
3. The same weight of sugar as that of juice
4. Juice of one piece of lemon

Preparation method

1. Rinse the strawberries, full them, cut into 4 pieces and put them in a casserole with 30 cl of water and apple juice. Boil it and simmer until the all fruits swim to the surface.
 - Pour the content of casserole into a sieve and let the juice flow into the container placed below by gentry pressing the fruits if necessary.
2. Weight the juice and prepare sugar. Pour the strawberry juice and sugar in a jam pot with the lemon juice. Heat until the sugar dissolves, boiling, hull and cook over high heat 10 to 15 minutes to reach the gelling point.
3. Check for doneness with a cold plate or the thermometer.

Additional information

Yield: about 4pots of 375g.

Baking time: 20minutes

Filtering time: 1-3 hours

2. Orange jelly

Ingredients

1. 2 kg of oranges.
2. 20 cl of apple juice
3. Same weight of sugar as for juice.
4. Juice of one lemon

Preparation method

1. Cut oranges in halves and press them to extract juice. weigh them and prepare same weight of sugar. Collect pips and wrap them in a nouet. Roughly crush them through the nouet.
2. If you want a clear jelly, filter the juice through a fine sieve with cheese cloth, letting it flow.
3. Pour the orange juice, sugar, apple juice and lemon juice in a casserole, then first gently heat while stirring. When has melted, immerse the pip nouet in the liquid, boil and skim it.
4. Cook over high heat for about 15 minutes, while skimming and regularly stirring to reach the gelling point.
5. Check the doneness with a cold plate or thermometer. Put in pots.

Additional information

Yield: 4 or 5 pots of 375g

Baking time: 20 minutes

Filtering time: 3 to 4 hours

3. SMOOTHIE

SMOOTHIE: Is a thick and creamy beverage made from pureed raw fruits, vegetables and sometimes dairy products (e.g: milk, yogurt) typically using a blender

4. JUICE MAKING

1. Tree tomato juice

Ingredient

1. Tree tomato

Preparation method

Wash and peel the fruits

Scup all fruits

Blend them

2. COCKTAIL JUICE

Ingredients

1. Mango
2. Pineapple
3. Tree tomato

Preparation method

1. Wash and peel
2. Cut into pieces
3. Add some water, and blend them

4. FRUITS SALADS

Ingredients

1. Seasonal fruits

Preparation method

1. Cut into cubes form
2. Mixing together
3. Garnishing with passion fruits

5. FRUITS CUTS

Ingredients

1. Seasonal fruits

Preparation method

1. Cut into different shapes

LO 2.5 Present fruit based product

• Topic 1: Presentation techniques

1. Garnishing

To make a dish good appearance and attractive to the diner, the dish should be characterized by Appearance (color and color contrast, shape, shine, arrangement on the plate), **Aroma, Taste, Mouth feel** (texture, moistness or dryness, softness or crispness) and temperature.

2. Fundamentals of Plating

The senses of sight, taste, smell, and touch play great role to evaluate and enjoy food.

3. Three Essentials of Fruit Presentation

Balance

The term balance is applied when menu planning. When balancing food it is better to consider the following:

Colors

Two or three colors on a plate are usually more interesting than just one.

Shapes

To have attractive plate it is better to cut the same shape of a given food commodity.

4. Guidelines that apply to presentation and garnishing.

- a) Keep fruit off the rim of the plate.
- b) Arrange the items for the convenience of the customer.
- c) Keep space between items, unless, of course, they are stacked on one another.
- d) Maintain unity.
- e) Make every component count.
- f) When using a sauce, add it attractively.
- g)** Keep it simple.
- h) The food should be easy to handle and serve,
- i) A simple design is best.
- j) Attractive platter presentations may be made on silver or other metals, mirrors, china, plastic or wood
- k) Once a piece of food has touched the tray, do not remove it.
- l) Think of the platter as part of the whole service

5. Types of garnishes

- a) Apples: unpared, slices, wedges
- b) Cucumbers: rings, slices, sticks
- c) Cherry tomatoes: whole, halves Dates—halves, pieces, whole

- d) Beets: slices, julienne, grated
- e) Coconut: flaked
- f) Dessert topping: whipped
- g) Grapes: whole, slices
- h) Carrots: sticks, curls, ribbons
- i) Cranberry sauce: slices, wedges
- j) Kiwi fruit: slices
- k) Onions: rings, mums
- l) Peppers, sweet, green: rings, slices,
- m) Lemon: wedges, slices, grated rind, twist
- n) Oranges: slices, grated rind, sticks
- o) Pimientos: strips, minced
- p) Melon balls
- q) Nuts: chopped, whole
- r) Peppers, pickled: cherry or rings
- s) Olives: green, ripe, whole, slices, chopped jalapeno

• **TOPIC 2: Presentation tools**

1. Plates



2. Jugs



3. Glasses



4. Bowls



Learning Unit 3: Store fruits product

LO 3.1 Identify container and the type of store

● Topic 1: Types of storage

- a. **Dry store: "Dry storage area"** means a room or area designated for the storage of PACKAGED or containerized bulk FOOD that is not POTENTIALLY HAZARDOUS and dry goods such as SINGLE-SERVICE items.
- b. **Perishable store:** Something **perishable** is likely to die or decay. A **perishable** is also a type of food with a limited shelf life if it's not refrigerated. Since perishing **is** dying, anything **perishable could** die or **is** likely to die

Fruit Storage Principle

Most fresh fruits are perishable and require refrigeration. Some fruits leave out to ripen, but when they ripe, they last longer in the fridge. Here are some suggestions on storing fresh fruit:

- a. **Hard fruits:** It should be kept in box and stored in a cool place.
- b. **Soft fruits:** It should be placed in basket and kept in a cool room.
Always store fruits in a tray so that any damaged fruits can be seen and discarded.
Some examples are as follows:
 - c. **Apples:** Refrigerate or store in a cool, dark place. Can be stored for several weeks.
 - d. **Avocados, papayas, kiwis, and mangoes:** Keep at room temperature until fully ripened and then refrigerate them to keep for several more days.
 - e. **Bananas:** Banana should not be stored in too cool place it should be store at room temperature.
 - f. **Cherries and berries:** Keep refrigerated. For best flavor, consume on the day of purchase.
 - g. **Citrus fruits (such as lemons, limes, grapefruit, oranges):** Citrus fruits, which don't ripen further after they're picked and are relatively long-storage fruits, keep for up to three weeks in the fridge.
 - h. **Grapes:** Keep in the refrigerator for up to a week.

- i. **Melons and tree fruits (such as pears, peaches, and nectarines):** Keep at room temperature so that they can ripen and grow sweeter. After they're fully ripe, store them in the refrigerator for several more days.
- j. **Pineapple:** Doesn't ripen after it's picked; best if eaten within a few days of purchase.
Keep at room temperature, away from heat and sun
- k. **Tomatoes:** Store at refrigerator to keep them from spoiling.

● **Topic 2: Storage tools**

1. **Plastic containers:** are containers made exclusively or partially of the plastic the entire packaging industry heavily depend on plastic containers with plastic content
2. **Stainless steel:** these little stainless steel containers made by metals, and help when packaging different fruits and others kind of food
3. **Porcelain:** Porcelain is a hard, shiny substance made by heating clay. It is used to make delicate cups, plates, and ornaments.

LO 3.2 Label storage containers

● **Topic 1: Labeling techniques**

- ❖ **LABELING:** is describing something or someone. Display of information about product on its container, packaging, or the product itself in purpose of describing someone or something.
 - Names of food
 - Origin of products
 - Weight of products
 - Date of expired Contact of someone who produce the products

● **Topic 2: Importance of labeling**

1. The primary role of food labels is to inform consumers of the food's nutritional values and ingredients,
2. Describe the product and specify its contents
3. Identification of the product or brand
4. Grading product

5. Help in promotion of products
6. Providing information required by law.
7. Appealing food label design (font, logo, images, colors)
8. Relevant information and appropriate phrasing
9. Effective message to consumers

LO 3.3. Conserve fruit products

● **Topic 1: Importance of conservation**

1. To avoid insect that can damage the foods
2. Eating locally and seasonally
3. Helps to save money
4. Food security
5. Enabling better balanced diet throughout the year
6. Avoid food poisoning
7. Reducing kitchen waste by prevention by preserving unused or uneaten foods for later use.
8. Also the food can be kept a long time away from bacteria by preventing cross contamination.

● **Topic 2: Fruit conservation Method**

Fruits are preserved for the consumption at a later stage. Depending on the types of fruits and purpose to product, various methods are applied.

They are:

- a. **Drying:** Apples, pears, apricots, peaches, figs, grapes are dried
- b. **Canning:** Almost all fruits may be canned.
- c. **Bottling:** Bottling is used domestically but very little fruits are commercially preserved in this way.
- d. **Candied:** Orange and lemon peel are candied. Other fruits with a strong flavor such as pineapple are preserved in this way.

- e. **Glaze:** The fruit is first candied and then dipped in fresh syrups to give a clear finish, cherries are glaze.
- f. **Crystallized fruits:** After the fruit has been candied it is left in fresh syrup for 24 hours and then allowed to dry very slowly until crystals form on the surface of the fruits.
- g. **Frozen:** Apples, gooseberries, blackberries, blueberries, passion fruits, plum, and melon, mixed fruits are frozen.
- h. **Juices:** Orange, grapefruits, tomato, pineapple, apples, tropical fruits and mixed citrus fruits can be preserved by making juice.
- i. **Jam:** Some stone and all soft fruits can be used for making jam.

LO 3.4. Apply storage procedures

● **Topic 1: Storage procedures**

Store procedures is mainly used to perform contain taste on data base:

1. **FIFO SYSTEM:** fifo system is one of the methods commonly used to calculate the value of inventory on the hand the end of period
2. **LIFO SYSTEM:** last in first out, is one of common techniques used in the valuation of inventory on hand at the end of period ...
3. **LABELING:** attach a label to something, a label can also be used to avoid ambiguity if a variable with the same name has been declared in more than one compound statement of the stored procedure
4. **STOCK TAKING:** is an action or process of recording the amount of stock held by a business. The stocktaking may be performed as an intensive annual end of fiscal year procedures or may be done continually by means of cycle count
5. **PACKAGING:** is packaging for food. A package provides protecting tempering resistance and special physical chemical or biological needs. It may bear a nutrition facts label and other information about food being offered for sale.
6. **COOLING:** moderately cold, neither warm nor cold

Temperature: keeping food at correct temperature is one of many ways of ensuring it's safe to eat

Ventilation; good air circulation and lights condition of humidity help and keep good condition of food

Controls fruit in store

1. Fruit store should be clean, well lit, ventilated and pest proof
2. Ensure good air circulation
3. Discard spoiled fruit and vegetables as this can contaminate healthy products
4. Store salad items and soft fruits (except bananas) in the salad drawer of the refrigerator

LO 3.5 Store and respect the required temperature

● **Topic 1: Controls in refrigerated storage**

Refrigerating foods slows down the multiplication of bacteria:

1. Maintain temperatures of 0-5°C
2. Store raw and cooked/ready-to-eat food separately
3. Do not place hot foods directly in the refrigerator as this will cause the temperature of the refrigerator to rise above 5°C
4. Do not overload the fridge as cold air needs to be allowed to circulate
5. Defrost and clean the fridge or freezer box regularly
6. Keep doors closed to maintain the temperature
7. Avoid prolonged storage
8. Temperature of food should be recorded
9. Cross contamination – ensure products are sealed and wrapped
10. Control in freezer storage
11. Freezing foods makes bacteria in the product dormant
12. Maintain temperatures of -18°C or below
13. Defrost and clean regularly

14. Do not place hot foods directly into the freezer
15. Do not overload
16. Ensure door is kept closed
- 17. Avoid prolonged storage**

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