

# COURSE GUIDE

## HCM 304 FOOD AND BEVERAGE PRODUCTION IV

**Course Team**

Dr. I. A. Akeredolu (Course Developer/Writer) – Yaba  
College of Technology, Lagos  
Dr. J. C. Okafor (Course Editor) – Federal Polytechnic,  
Iloro  
Dr. (Mrs) A. O. Fagbemi (Programme Leader) – NOUN  
Mr. S. O. Israel-Cookey (Course Coordinator) – NOUN



**NATIONAL OPEN UNIVERSITY OF NIGERIA**

National Open University of Nigeria

**Headquarters**

University Village  
Plot 91, Cadastral Zone,  
Nnamdi Azikiwe Express way  
Jabi, Abuja

Lagos Office  
14/16 Ahmadu Bello Way  
Victoria Island, Lagos

e-mail: [centralinfo@noun.edu.ng](mailto:centralinfo@noun.edu.ng)

website: [www.nou.edu.ng](http://www.nou.edu.ng)

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## **INTRODUCTION**

*HCM 304: Food and Beverage Production IV* is a two-credit unit and 300 level core course. The course consists of 15 units of five units per module. The course has been developed to suit all students of undergraduate programme in B.Sc. Hotel and Catering Management at the School of Management Sciences.

The hospitality industry with its dynamic nature has become one of the highest employers of labour. The course describes the characteristics of the hospitality industry. It also gives a breakdown of the different segments of the industry with details of the different types of restaurant operations. The structure and planning of menus, food purchasing, effective control system, varieties of food commodities and food regulation issues are some of the areas covered.

Diligence in going through the course shall enable you to make the right choices in organising different kinds of functions.

The Course Guide tells you briefly what the course is about, what course material you will be using and how you can work your way through the study materials. It suggests some general guidelines on the length of time you are suppose to spend on each unit of the course in order to complete it successfully.

It also gives you some guidance on your tutor-marked assignment, which will be available to you at the study centre. There are regular tutorial classes that are linked to the course; you are advised to attend these sessions.

## **COURSE AIMS**

This course seeks to give you an understanding of how hotel and catering industry is organised; the structure and planning of menus, food purchasing, effective control system, varieties of food commodities and food regulation. And finally, the need to comply with laws regarding health and environmental safety.

## **COURSE OBJECTIVES**

To achieve the course aims stated above, the overall objectives of the course have been stated. In addition, each unit has specific objectives which are included at the beginning of each unit. You are encouraged to read them before you start working through the unit. During your study of the unit, refer to them to check on your progress.

On completion of this course, you should be able to:

- identify various food hygiene regulations
- highlight what menu/recipe entails and customer requirements
- list local food commodities
- explain the procedure for cook-chill, cook-freeze, and sous vide catering system
- discuss functional catering and meat cookery.

## **WORKING THROUGH THIS COURSE**

This is a two-credit unit course, and so you are expected to spend a minimum of two hours on it weekly. It is expected that you complete the entire course between 18 – 25 weeks.

For a successful completion of this course, you are required to go through the study units, reference books, and other resources that are related to each unit.

The tutor-marked assignments (TMAs) should be done immediately and submitted to the course facilitator. The medium and time for the submission of the TMA will be specified later. Below are the components of the course, what you have to do and how you should allocate your time to each unit in order to complete the course expeditiously.

## **COURSE MATERIALS**

The major components of the course are:

1. Course Guide
2. Study Units
3. Textbooks and References
4. Assignment File
5. Presentation Schedule

## STUDY UNITS

The course is structured into 3 modules and 15 units as shown below:

### Module 1

Unit 1	The Hospitality Industry
Unit 2	Restaurant
Unit 3	Food Poisoning
Unit 4	Food Hygiene Regulation
Unit 5	The Menu

### Module 2

Unit 1	Meat, Poultry and Game
Unit 2	Fish
Unit 3	Vegetables and Fruits
Unit 4	Eggs and Dairy Products
Unit 5	Cereals, Nuts, Fats and Oils

### Module 3

Unit 1	Food Purchasing
Unit 2	Organisation of Control
Unit 3	Catering for Functions
Unit 4	Meat Cookery
Unit 5	Cook-Chill, Cook-Freeze

## ASSESSMENT

There are two aspects to the assessment for this course: tutor-marked assignment and the e-examination. Within each unit are self - assessment exercises which are aimed at helping you to check your understanding as you proceed. Try to attempt each of the exercises before finding out the expected answers from literature.

## TUTOR-MARKED ASSESSMENT

This is your continuous assessment exercise and it accounts for 30% of your total score. You are expected to answer at least four sets of TMA before you sit for the end of course examination. Your best three TMAs will account for the 30 % of the total score.

## **FINAL EXAMINATION AND GRADING**

The end-of-course examination would earn you 70% which would be added to your TMA score (30%). The time of the examination would be communicated to you. When you are successful in your examination, then you have completed the course in Food and Beverage Production IV. It is believed that you would apply this knowledge in the hotel and tourism industry.

## **HOW TO GET THE MOST FROM THIS COURSE**

In open and distance learning, the study units are especially designed to replace the lecturer. This is one of the great advantages of distance learning. You can read and work through the specially designed study materials at your own pace, and at a time and place that suits you best. Think of it as you read the lecture and that a lecturer might set you some readings to do. The study will tell you when to read your other materials. Just as a lecturer might give you an in-class exercise, your study units also provide exercise for you to do at appropriate times.

Each of the study units follows a common format. The first item is an introduction to the subject matter of the unit, and how a particular unit is related with the other units and the course as a whole.

Next is a set of learning objectives. These objectives let you know what you should be able to do by the time you have completed the unit. You should use these objectives to guide your study. When you have finished the unit, you must go back and check whether you have achieved the objectives. If you make a habit of doing this, you will significantly improve your chances of passing the course.

The main body of the unit guides you through the required reading from other sources. This will usually be either from a reading section or some other sources.

Self-assessment exercises are interspersed throughout the end of units. Working through these tests will help you to achieve the objectives of the unit and prepare you for the assignments and the examinations. You should do each self-assessment exercise as you come to it in the study unit. There will also be numerous examples given in the study units, work through these when you come to them too.

The following is a practical strategy for working through the course. If you run into any trouble, telephone your tutor. When you need help, do not hesitate to call and ask your tutor to provide it. In summary ensure you do the following:

1. Read this Course Guide.
2. Organise a study schedule. Refer to the course overview for more details. Note the time you are expected to spend on each unit and how the assignments relate to the unit. Important information e.g. details of your tutorials, and the date of the first day of the semester is available. You need to gather together all information in one place, such as your diary or a wall calendar. Whatever method you choose to use, you should decide on and write in your own date for working on each unit.
3. Once you have created your own study schedule, do everything you can to stick to it. The major reason that students fail is that they get behind in their course work. If you get into difficulties with your schedule, please let your facilitator know before it is too.
4. Turn to unit one and read the introductions and the objectives for the unit.
5. Assemble the study materials. Information about what you need for a unit is given in the “Overview” at the beginning of each unit. You will always need both the study unit you are working on and at least one of your reference text books on your desks at the same time.
6. Work through the unit. The content of the unit itself has been arranged to provide a sequence for you to follow. As you work through this unit, you will be instructed to read sections from your reference books or other articles. Use the unit to guide your readings.
7. Well before the relevant due dates (about 4 weeks before the dates) access the assignment file to download your next required assignment. Keep in mind that you will learn a lot by doing the assignments carefully. They have been designed to help you meet the objectives of the course and, therefore, will help you pass the examination. Submit all assignments not later than the due dates.
8. Review the objectives for each study unit and ensure that you have achieved them. If you feel unsure about any of the objectives, review the study material or consult your tutor.
9. When you are confident that you have achieved a unit’s objectives, you can then start on the next unit. Proceed unit by unit through the course and try to pace your study so that you keep yourself on schedule.
10. When you have submitted an assignment to your tutor for marking, do not wait for its return before starting on the next unit. Keep to your schedule. When the assignment is returned, pay particular attention to your facilitator’s comments. Consult your tutor as soon as possible if you have any questions or problems.



11. After completing the last unit, review the course and prepare yourself for the final examination. Check that you have achieved the unit's objectives (listed at the beginning of each unit) and the course objectives (listed in the Course Guide).

## **FACILITATORS, TUTORS AND TUTORIALS**

There are eight hours of tutorials provided in support of this course. You will be notified of the dates, times and location of these tutorials, together with the names and phone number of your tutor, as soon as you are allocated a tutorial group.

Your tutor will mark and comment on your assignment, keep a close watch on your progress and on any difficulties you might encounter as they would provide assistance to you during the course. You must mail your tutor-marked assignments to your tutor well before the due date (at least two working days are required). They will be marked by your tutor and returned to you as soon as possible. Do not hesitate to contact your tutor by telephone, e-mail, or discussion board if you need help.

Therefore, contact your tutor if you:

- do not understand any part of the study units or the assigned readings
- have difficulty with the self - tests or exercises
- have a question or problem with an assignment with your tutor's comment on an assignment or with the grading of an assignment.

You should try your possible best to attend the tutorials. This is the only chance to have a face-to-face contact with your tutor and to ask questions which are answered instantly. You can raise any problem encountered in the course of your study. To gain the maximum benefit from course tutorials, prepare a question list before attending them. You will learn a lot from actively participating in such discussions.

## **TEXTBOOKS AND REFERENCES**

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Singh, S. A. (2002). *Restaurant Management*. Anmol Publications.

Small, M. R. (1976). *Catering for Functions*. London: Barrie & Jenkins Ltd.

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## **SUMMARY**

It is advisable that you manage your time properly in order to excel in this course. You become what you give your time to, and if you have spent money to enroll for this course, the onus lies on you to get value for money. It is hoped that with what you will learn from this course, you should be able to affect the hospitality industry positively.

**MAIN  
COURSE**

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**MODULE 1**

Unit 1	The Hospitality Industry
Unit 2	Restaurant
Unit 3	Food Poisoning
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**UNIT 1 THE HOSPITALITY INDUSTRY****CONTENTS**

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## **1.0 INTRODUCTION**

Hospitality industry is one of the largest employers of labour in the world. The sectors range from the specialised, institutional areas such as hospitals, industrial outfits, schools and colleges to the more glamorous five-star resorts. The food service industry (catering) is one of the most challenging of these different sectors. In this first unit of the course, we are discussing the different types of catering establishments.

## **2.0 OBJECTIVES**

At the end of this unit, you should be able to:

- identify the four characteristics of the hospitality industry
- differentiate between commercial, welfare, and industrial catering
- outline and discuss the different types of catering establishments.

## **3.0 MAIN CONTENT**

### **3.1 Characteristics of the Hospitality Industry**

There are four characteristics of the hospitality industry which makes it a unique operation. Firstly, hospitality cannot be delivered without customers - who provide the source of revenue for the continued financial viability of the operation. The customer is directly involved in many aspects of the delivery of the hospitality service, and is the judge of the quality of the hospitality provided.

Secondly, achieving a satisfactory balance between demand patterns, resource scheduling and operations is a particularly difficult task in the hospitality industry.

Thirdly, all hospitality operations require a combination of manufacturing expertise and service skill. It operates in many cases twenty-four hours a day. To deliver a consistent product to each individual customer requires teams of people well trained to deliver to a set standard every time.

Fourthly, no matter how well planned the operation is, how good the design and environment may be, if the interaction between the customer and the service provider is not right this will have a detrimental effect on the customer experience of the total product and a missed opportunity to sell future products.

### 3.2 The Catering Industry

The food service industry encompasses those places, institutions and companies that provide meals eaten away from home. This industry includes restaurants, schools and hospital cafeterias, catering operations, and many others, including ‘on-premises’ and ‘off-premises’ catering.

The food service industry is divided into three general classifications: commercial segment, non-commercial segment, and military segment. Catering management may be defined as the task of planning, organising, controlling and executing catering operations. Each activity influences the preparation and delivery of food, beverage, and related services at a competitive, yet profitable price. These activities work together to meet and exceed the customer’s perception of value for his money.

### 3.3 Catering Segments

Catering management is executed in many diverse ways within each of the segments. The first, commercial segment, traditionally considered the profit-generating operation, includes the independent caterer, the restaurant caterer, and the home-based caterer. In addition, hotel/motel and private club catering operations are also found in this category.

#### Food Service Catering Industry

##### Military Segment

- 1. Military functions
- 2. Diplomatic functions

##### Commercial Segment

- 1. Independent caterers
- 2. Hotel/motel caterers
- 3. Private clubs
- 4. Restaurant/catering firms

##### Non-commercial Segment

- 1. Business/industry accounts
- 2. School catering
- 3. Health care facilities
- 4. Transportation catering  
(In-flight catering)
- 5. Recreational food service  
(amusement, and theme parks,  
conference and sport arenas)
- 6. College and university catering
- 7. Social organisations (fraternal  
and social clubs)

The figure above, illustrates how the food service/catering industry is segmented. The non-commercial segment, or the 'not-for-profit' operations, consists of the following types of catering activities: business / industry accounts, school, college and university catering, health care facilities, recreational food service catering, social organisations and transportation food service catering. The military segment encompasses all catering activities involved in association with the armed forces and/or diplomatic events.

### **3.4 Types of Catering**

There are two main types of catering: on-premises and off-premises catering: that may be a concern to a large and small caterer.

On-premise catering is any function - banquet, reception, or event - that is held on the physical premises of the establishment or facility that is organising/sponsoring the function. On-premise catering differs from off-premise catering in that the function takes place in a remote location, such as a client's home, a park, an art gallery, or even a parking lot, and the staff, food, and decor must be transported to that location. Off-premise catering often involves producing food at a central kitchen, with delivery to and service provided at the client's location. Part or all of the production of food may be executed or finished at the location of the event. For instance, small chops like *samosa* and puff-puff are part-prepared and fried at the venue.

Catering can also be classified as social catering and corporate (or business) catering. Social catering includes such events as weddings, high school reunions, birthday parties, and charity events. Business catering includes such events as association conventions and meetings, civic meetings, corporate sales or stockholder meetings, recognition banquets, product launches, educational training sessions, seller-buyer meets, service awards banquets, and entertaining in hospitality suites.

#### **3.4.1 On-Premise Catering**

All of the required functions and services that the caterers execute are done exclusively at their own facility. For instance, a caterer within a hotel or banquet hall will prepare and cater for all of the requirements without taking any service or food outside the facility.

Many restaurants have specialised rooms' on-premise to cater for the private-party niche. A restaurant may have a layout strategically designed with three separate dining rooms attached to a centralised commercial food production kitchen. These separate dining rooms are available at the same time to support the restaurant's operation and for

reservation and overflow seating. In addition, any of the three dining rooms may be contracted out for private event celebrations and may require their own specialised service and menu options. Other examples of on-premise catering include hospital catering, school, university/college catering.

### **3.4.2 Off-Premise Catering**

Off-premise catering is serving food at a location away from the caterer's food production facility. One example of a food production facility is a freestanding commissary, which is a kitchen facility used exclusively for the preparation of foods to be served at other locations. Other examples of production facilities include, but are not limited to, hotel, restaurant, and club kitchens. In most cases there is no existing kitchen facility at the location where the food is served. Caterers provide single-event foodservice, but not all caterers are created equal. They generally fall into one of three categories:

### **3.4.3 Party Food Caterers**

Party food caterers supply only the food for an event. They drop off cold foods and leave any last-minute preparation, plus service and cleanup, to others.

### **3.4.4 Hot Buffet Caterers**

Hot buffet caterers provide hot foods that are delivered from their commissaries in insulated containers. They sometimes provide serving personnel at an additional charge.

### **3.4.5 Full-Service Caterers**

Full-service caterers not only provide food, but frequently cook it to order on-site. They also provide service personnel at the event, plus all the necessary food-related equipment—china, glassware, flatware, cutlery, tables, and chairs, tents etc.

They can arrange for other services, like decor and music as well. A full-service caterer can plan and execute an entire event, not just the food.

## **3.5 Types of Catering Establishments**

Various catering establishments are categorised by the nature of the demands they meet. The following are some of the catering establishments:



### **3.5.1 Restaurant**

A restaurant is an establishment that serves the customers with prepared food and beverages to order, to be consumed on the premises. The term covers a multiplicity of venues and a diversity of styles of cuisine. Restaurants are sometimes also a feature of a larger complex, typically a hotel, where the dining amenities are provided for the convenience of the residents and for the hotel to maximise their potential revenue. Such restaurants are often open to non-residents also.

### **3.5.2 Transport Catering**

The provision of food and beverages to passengers, before, during and after a journey on trains, aircraft and ships and in buses or private vehicles is termed transport catering. These services may also be utilised by the general public, who are in the vicinity of a transport catering unit. The major forms of modern day transport catering are airline-catering, railway -catering, ship- catering and surface catering in coaches or buses which operate on long distance routes.

### **3.5.3 Airline Catering**

Catering to airline passengers on board the aircraft, as well as at restaurants situated at airport terminals is known as airline catering. Modern airports have a variety of food and beverage outlets to cater to the increasing number of air passengers. Catering to passengers *en route* is normally contracted out to a flight catering unit of a reputed hotel or to a catering contractor or to the catering unit operated by the airline itself as an independent entity.

### **3.5.4 Railway Catering**

Catering to railway passengers both during the journey as well as during halts at different railway stations is called railway catering. Travelling by train for long distances can be very tiring; hence a constant supply of a variety of refreshment choices helps to make the journey less tedious. On-board meal services are also provided on long distance trains.

### **3.5.5 Ship Catering**

Ship catering is catering to cargo crew and passenger ship passengers. Ships have kitchens and restaurants on board. The quality of service and facilities offered depends on the class of the ship and the price the passengers are willing to pay. There are cruises to suit every pocket. They range from room service and cocktail bars to specialty dining restaurants.

### **3.5.6 Surface Catering**

Catering to passengers traveling by surface transport such as buses and private vehicles is called surface catering. These eating establishments are normally located around a bus terminus or on highways. They may be either government run restaurants, or privately owned establishments.

### **3.5.7 Outdoor Catering**

This form of catering includes the provision of food and drink away from home base and suppliers. The venue is left to the customer's choice. Hotels, restaurants and catering contractors meet this growing demand. The type of food and set up depends entirely on the price agreed upon. Outdoor catering includes catering for functions such as marriages, parties and conventions.

### **3.5.8 Retail Store Catering**

Some retail stores, apart from carrying on their primary activity of retailing their own wares, provide catering as an additional service. This type of catering evolved when large departmental stores wished to provide food and beverages to their customers as a part of their retailing concept. It is inconvenient and time consuming for customers to take a break from shopping, to have some refreshments at a different location. Thus, the need arises for some sort of a dining facility in the retail store itself. This style of catering is becoming more popular and varied nowadays.

### **3.5.9 Club Catering**

Club catering refers to the provision of food and beverages to a restricted member clientele. Some examples of clubs for people with similar interests are golf clubs, cricket clubs etc. The service and food in these clubs tend to be of a fairly good standard and are economically priced. Night clubs are usually situated in large cities that have an affluent urban population. They offer entertainment with good food and expensive drinks.

### **3.5.10 Welfare Catering**

The provision of food and beverages to people to fulfill a social obligation, determined by a recognised authority, is known as welfare catering. This grew out of the welfare state concept, prevalent in western countries. It includes catering in hospitals, schools, colleges, the armed forces, prisons, institutes and less privileged homes.

### **3.5.11 Industrial Catering**

The provision of food and beverages to ‘people at work,’ in industries and factories at highly subsidised rates is called industrial catering. It is based on the assumption that better fed employees at concessional rates are happy and more productive. Catering for a large workforce may be undertaken by the management itself, or may be contracted out to professional caterers. Depending on the choice of the menu suggested by the management, catering contractors undertake to feed the workforce for a fixed period of time at a predetermined price.

### **3.5.12 Leisure-Linked Catering**

This type of catering refers to the provision of food and beverages to people engaged in ‘rest and recreation’ activities. This includes sale of food and beverages through different stalls and kiosks at exhibitions, theme parks, galleries and theatres. The increase in the availability of leisure time and a large disposable income for leisure activities has made it a very profitable form of catering.

## **3.6 Other Aspects of Catering**

### **3.6.1 Chain-Catering Organisations**

There are many establishment with chains spread over wide areas and in some cases overseas. Prospects for promotion and opportunities are often considerable, whether it is in a chain of hotels or restaurants. These are the well-known hotel companies, restaurant chains, the popular type of restaurant, chain stores and the shops with restaurants, which often serve lunch teas and morning coffee, and have snack bars and cafeterias.

### **3.6.2 Specialty Restaurants**

Moderately priced specialty eating houses are in great demand and have seen a tremendous growth in recent years. In order to ensure a successful operation it is essential to assess the customers’ requirements accurately and to plan a menu that will attract sufficient customers to give adequate profit. A successful caterer is the one who gives customers what they want and not what the caterer thinks the customers want. The most successful catering establishments are those which offer the type of food they can sell, which is not necessarily, the type of food they would like to sell.

### **3.6.3 Country Hotels**

Country house hotels have been and are being developed in many tourist areas; many are listed buildings, stately homes or manor houses.

### **3.6.4 Consortia**

A consortium is a group of independent hotels who purchase products and services such as marketing from specialist companies providing members of the consortium with access to international reservation systems. This enables the group to compete against the larger chains.

## **3.7 Motels/Travel Lodges**

These establishments are sited near motorways and arterial routes. They focus on the business person who requires an overnight stop or the tourist who is on a driving holiday. These properties are reasonably priced; they consist of a room only with tea and coffee making facilities. Staffing is minimal and there is no restaurant. However, there will be other service close by often managed by the same company.

### **3.7.1 Timeshare Villas/Apartments**

A timeshare owner purchases the right to occupy a self catering apartment, a room or a suite in a hotel, a leisure club for a specified number of weeks per year over a period of years or indefinitely.

### **3.7.2 Health Farms**

Often, luxury hotels where the client is able to access a number of specialist health treatments for those who are stressed, over worked or wish to lose weight.

### **3.7.3 Guesthouses**

Guesthouses are found all over the country. The owners usually live on the premises and let their bedrooms to passing customers. Many have regular clients. Guesthouses usually offer bed, breakfast and evening meal. They are small privately owned operations.

### **3.7.4 Farms**

Farmers recognising the importance of the tourism industry in the countryside formed a national organisation called the Farm Holiday Bureau. Most members have invested to transform basic bedrooms to

meet the required standards. The National Tourist Board inspects every member property to ensure good value and quality accommodation. In most cases the accommodation is on a nearby working farm.

### **3.7.5 Youth Hostels**

The Youth Hostels Association runs hostels in various locations in Nigeria e.g. Young Men Christian Association(YMCA), Young Women Christian Association(YWCA).These establishments cater mainly for single people and for those groups travelling on a tight budget, in some locations there are a number of sports facilities.

### **3.8 Public Sector Catering (Cost Sector)**

Public sector catering in places like hospitals, universities, colleges, schools, prisons, and military barracks has been known for many years as **Welfare Catering** and was characterised by its non-profit making focus, minimising cost by achieving maximum efficiency.

However, with the introduction of competitive tendering, many public sector operations have been won by contract caterers who have introduced new concepts, and commercialism with the public sector. This sector is more commonly known as the cost sector.

### **3.9 Prisons**

Catering may be run by contract catering or by the Prison Service. The food is usually prepared by prison officers and inmates. The kitchens are also used to train inmates in food production, to encourage them to seek employment on release. Prisons have lost their Crow- immunity which prevented prosecution through poor hygiene and negligence.

### **3.10 The Food Service Management Sector**

Food service management covers such areas as feeding people at work, in business and industry, catering in schools, college and universities, hospitals and healthcare, welfare and local authority catering and other non-profit making outlets.

Work in the traditional sectors, called cost, non-profit making, 'non-commercial' catering or 'social' catering continues but, because contractors are developing their interests in commercial catering, the term food service management describes more accurately the total contract catering industry.

Definitions in this sector are becoming increasingly blurred as contract catering enterprises move into other areas, including catering for members of the public in such outlets as leisure centres, department stores, airports, railway stations, public events and places of entertainment. Contractors are also providing a range of other support services such as housekeeping and maintenance, reception, security, laundry, bar and retail shops.

### **3.11 Contract Catering**

By far the most important market in contract catering is business and industry where the number of outlets is increasing.

Branded outlets are another growth area which also reflects the commercial influence of contracting.

There are many catering concerns that are prepared to undertake the catering for businesses, schools or hospitals, leaving these establishments free to concentrate on the business of educating or nursing, etc. By employing contract caterers and using the services of people who have specialised in catering, organisations can thus relieve themselves of the worry of entering a field outside their province. Contract caterers are used by nearly every type of organisation, including the armed forces. The arrangements however always vary.

#### **3.11.1 Contracts**

No two services or clients' requirement are the same, therefore contracts differ from company to company.

#### **Contractor's Charges**

Contractors generally offset their administration costs and gain their profits from three sources.

- i. Fees charged
- ii. Cash spent by customers and discounts from food and
- iii. Materials supplied to the client's operation.

#### **Fees**

The fees charged are in various ways:

- i. A set annual figure charged on a weekly or monthly basis
- ii. A percentage of taking or costs
- iii. A combination of both with different percentage applying to various sections of costs
- iv. A per capita or per meal charge.

**Partnership**

Where the client and customer are partners in the operations and share the costs and revenue.

**3.12 Franchising**

Franchising is where a manager pays a license fee and makes whatever he/she can above an agreed percentage on the food he/she sells. Various catering concessions and outside contract arrangements at clubs, leisure centres, colleges and offices are similar to franchising. A form of franchising is also practiced in the pub business in addition to other systems like the managed pub.

Many companies who supply caterers with products like soft drinks, ice-cream or coffee distribute their products by means of purchased operators. Some suppliers providing food and drink to caterers have 'brand franchises' sometimes backing their product with appropriate equipment and advertising material to ensure that caterers prepare, present and promote the products in a consistent way.

Operating styles vary considerably from pizza, hamburgers, baked croissants to full menu restaurants, coffee shops and pancake houses. Despite all the differences, all the franchise schemes work on the same basic principle. An established catering company offers a complete package of experience, operating systems and on-going marketing support sufficient to enable outside operators to set up and operate their own units within the chain. The investor makes an initial franchise payment and then pays a continuing royalty or commission which is often expressed as a percentage of gross turnover. All investment in property, buildings and equipment is borne by the franchise; in some cases the franchise might play some part in securing the property.

**Advantages of Franchising**

1. It allows for many to be set up nationally and by doing so maximises on economies of scale in purchasing promotional material in the development of the brand image.
2. The franchisee gains because the opportunity is shared to invest in a pretested catering concept, backed by advertising, research and development, training and other resources which may otherwise be beyond their finance capability.
3. The banks also show an interest in franchising, in many ways they see it as a reasonably safe investment.

**Note:** Many of the most active franchise schemes are based on a fast-food style of menu and operating system. Now there is a growing market involving wider menus, medium spend restaurants, mainly licensed.

Examples include Pizza Express Chain, and Dutch Pancake Houses, Mr. Biggs, Tantalizers, Tasty Fried Chicken (TFC), Kentucky Fried Chicken (KFC).

**SELF-ASSESSMENT EXERCISE**

- i. Classify the food service industry.
- ii. Differentiate between commercial and welfare catering.
- iii. Identify five non-commercial catering segments.
- iv. List and explain four advantages of franchising.

**4.0 CONCLUSION**

Having studied the different types of catering establishment, we should make a good decision on the type we can establish or work in.

**5.0 SUMMARY**

The catering industry encompasses those places that provide meals to the customer at cost. Catering industry may be of ‘on-premises’ and ‘off-premises’ types. On-premises catering refer to the preparation and serving of food at the place where the function is held, whereas, off-premises catering involve producing food at a central kitchen and service provided at the client’s location.

The catering Industry is divided into three segments, viz. commercial, non-commercial and military. Catering management may be defined as the task of planning, organising, controlling and executing in food preparation and serving. Catering can also be classified as social catering and corporate (or business) catering.

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The catering establishments are categorised by the nature of the demands they meet. Restaurants, transport catering ( airline catering, railway catering, ship catering, surface catering), outdoor catering, retail store catering, club catering, welfare catering, industrial catering and leisure catering are some of the types of catering establishments.

**6.0 TUTOR-MARKED ASSIGNMENT**

Identify 15 types of catering establishments found in your state.

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## **7.0 REFERENCES/FURTHER READING**

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## UNIT 2 RESTAURANT

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### 1.0 INTRODUCTION

In the last unit, we discussed the different types of catering. In this unit we shall discuss the different types of restaurant and the duties and responsibilities of the restaurant staff. The art of cooking and serving good food to others is a very versatile one.

A restaurant is a commercial outfit which specialises in the preparation and service of quality food and to satisfy the customer's demands. The term restaurant (from the French word *restaurer*, to restore) first appeared in the 16th century, meaning "a food which restores", and referred specifically to a rich, highly flavoured soup.

The modern sense of the word was born around 1765 when a Parisian soup-seller named Boulanger opened his establishment.

## 2.0 OBJECTIVES

At the end of this unit, you should be able to:

- give the definition of a restaurant
- state the various classifications of restaurants
- discuss the duties of restaurant staff.

## 3.0 MAIN CONTENT

### 3.1 Restaurant

A restaurant is a retail establishment that serves prepared food to customers. Service is generally for eating on premises, though the term has been used to include take-out establishments and food delivery services. The term covers many types of venues and a diversity of styles of cuisine and service.

Restaurants are sometimes a feature of a larger complex, typically a hotel, where the dining amenities are provided for the convenience of the residents and, of course, for the hotel with a singular objective to maximise their potential revenue. Such restaurants are often also open to non-residents.

Restaurants range from unpretentious lunching or dining places catering to people working nearby, with simple food and fixed menu served in simple settings at low prices, to expensive establishments serving expensive specialty food and wines in a formal setting. In the former case, customers usually wear casual clothing. In the latter case, depending on culture and local traditions, customers might wear semi-casual, semi-formal, or even in rare cases formal wear. Typically, customers sit at tables, their orders are taken by a waiter, who brings the food when it is ready, and the customers pay the bill before leaving. In classy restaurants, there will be a host or hostess or even a *maitre d'hôtel* to welcome customers and to seat them. Other staff waiting on customers includes busboys and sommeliers.

#### 3.1.1 Classification of Restaurants

Restaurants can be classified by whether they provide places to sit, whether they are served by wait-staff and the quality of the service, the formal atmosphere, and the price range. Restaurants are generally classified into three groups:

**Restaurant**

1. **Quick Service:** Also known as fast-food restaurants. They offer limited menus that are prepared quickly. They usually have drive-through windows and take-out. They may also be self-service outfits.
2. **Mid Scale:** They offer full meals at a medium price that customers perceive as "good value." They can be of full service, buffets or limited service with customers ordering at the counter and having their food brought to them or self-service.
3. **Upscale** - Offer high quality cuisine at a high end price. They offer full service and have a high quality of ambience.

**3.1.2 Types of Restaurants**

Restaurants often specialise in certain types of food or present a certain unifying, and often entertaining, theme. For example, there are seafood restaurants, vegetarian restaurants or ethnic restaurants like "Calabar" restaurant. Generally speaking, restaurants selling "local" food are simply called restaurants, while restaurants selling food of foreign origin are called accordingly, for example, a Chinese restaurant and a French restaurant. Depending on local customs and the policy of the establishment, restaurants may or may not serve alcoholic beverages. Restaurants are often prohibited from selling alcohol without a meal by alcohol sale laws; such sale is considered to be activity for bars, which are meant to have more severe restrictions.

Some restaurants are licensed to serve alcohol ('fully licensed'), and/or permit customers to 'bring your own' alcohol.

**3.1.2.1 Cafeterias**

A cafeteria is a restaurant serving mostly cooked ready to eat food arranged behind a food-serving counter. There is little or no table service. Typically, a patron takes a tray and pushes it along a track in front of the counter. Depending on the establishment, servings may be ordered from attendants, selected as ready-made portions already on plates, or self-serve of food of their own choice. In some establishments, a few items such as steaks may be ordered specially prepared rare, medium and well done from the attendants. The patron waits for those items to be prepared or is given a number and they are brought to the table. Beverages may be filled from self-service dispensers or ordered from the attendants.

At the end of the line a cashier rings up the purchases. At some self-service cafeterias, purchases are priced by weight, rather than by individual item. The trays filled with selected items of food are taken to

a table to eat. Institutional cafeterias may have common tables, but upscale cafeterias provide individual tables as in sit-down restaurants. Upscale cafeterias have traditional cutlery and crockery, and some have servers to carry the trays from the line to the patrons' tables, and/ or bus the empty trays and used dishes.

Cafeterias have a wider variety of prepared foods. For example, it may have a variety of roasts (beef, ham, turkey) ready for carving by a server, as well as other cooked entrées, rather than simply an offering of hamburgers or fried chicken.

### **3.1.2.2 Fast-Food Restaurants**

Fast-food restaurants for example “Mr. Biggs”, “Tasty Fried Chicken”, “Kentucky Fried Chicken” emphasis speed of service and low cost over all other considerations. A common feature of newer fast food restaurants that distinguishes them from traditional cafeteria is a lack of cutlery or crockery; the customer is expected to eat the food directly from the disposable container it was served in using their fingers.

The following are the various types of fast-food restaurant:

- one collects food from a counter and pays, then sits down and starts eating (as in a self-service restaurant or cafeteria)

#### **Sub-varieties:**

- one collects ready portions
- one serves oneself from containers
- one is served at the counter
- a special procedure is that one first pays at the cash desk, collects a coupon and then goes to the food counter, where one gets the food in exchange for the coupon.
- one orders at the counter; after preparation the food is brought to one's table; paying may be on ordering or after eating.
- a drive-through is a type of fast-food restaurant without seating; diners receive their food in their cars and drive away to eat. Most fast-food restaurants offer take-out: ready-to-eat hot food in disposable packaging for the customer to eat off-site.

### **3.1.2.3 Casual Restaurants**

A casual dining restaurant is a restaurant that serves moderately-priced food in a casual atmosphere. Except for buffet style restaurants, casual dining restaurants typically provide table service. Casual dining comprises of a market segment between fast food establishments and fine dining restaurants.

### 3.1.2.4 Fast Casual-Dining Restaurants

A fast casual restaurant is similar to a fast-food restaurant in that it does not offer full table service, but promises a somewhat higher quality of food and atmosphere. Average prices charged are higher than fast-food prices and non-disposable plates and cutlery are usually offered. This category is a growing concept that fills the space between fast food and casual dining. Counter service accompanied by handmade food (often visible via an open kitchen) is typical. Alcohol may be served. Dishes like steak, which require experience on the part of the cook to get it right, may be offered. The menu is usually limited to an extended over-counter display, and options in the way the food is prepared are emphasized.

Many fast casual-dining restaurants are marketed as health conscious:

Healthful items may have a larger number of items than normal portion of the menu and high-quality ingredients such as free-range chicken and freshly made salsas may be advertised. Overall, the quality of the food is presented at a much higher class than conventional factory-made fast food. An obvious ethnic theme may or may not be present in the menu.

## 3.2 Other Restaurants

Most of these establishments can be considered subtypes of fast casual-dining restaurants or casual-dining restaurants.

### i) Café

Cafés and coffee shops are informal restaurants offering a range of hot meals and made-to-order sandwiches. Cafés offer table service. Many cafés are open for breakfast and serve full hot breakfasts. In some areas, cafés offer outdoor seating.

### ii) Coffeehouse

Coffeehouses are casual restaurants without table service that emphasize coffee and other beverages; typically a limited selection of cold foods such as pastries and perhaps sandwiches are offered as well. Their distinguishing feature is that they allow patrons to relax and socialize on their premises for long periods of time without pressure to leave promptly after eating.

### iii) Pub

A pub (short for public house) is a bar that serves simple food fare. Traditionally, pubs were primarily drinking establishments with food in a decidedly secondary position, whereas the modern pub business relies on food as well, to the point where gastro pubs are known for their high-

quality pub food. A typical pub has a large selection of beers and ales on tap.

**iv) Bistros and Brasserie**

A brasserie is a café doubling as a restaurant and serving single dishes and other meals in a relaxed setting. A bistro is a familiar name for a café serving moderately priced simple meals in an unpretentious setting. Especially in Paris, bistros have become increasingly popular with tourists. When used in English, the term bistro usually indicates either a fast casual-dining restaurant with a European-influenced menu or a café with a larger menu of food.

**v) Family Style**

"Family style restaurants" are restaurants that have a fixed menu and fixed price, usually with diners seated at a communal table such as on bench seats. More common in the 19th and early 20th century, they can still be found in rural communities, or as theme restaurants, or in vacation lodges. There is no menu to choose from; rather food is brought out in courses, usually with communal serving dishes, like at a family meal. Typical examples can include crab houses, German-style beer halls, Barbeque (BBQ) restaurants, hunting lodges, etc. Some normal restaurants will mix elements of family style, such as a table salad or bread bowl that is included as part of the meal.

**vi) BYO (Bring Your Own) Restaurants**

BYO Restaurants are restaurants and bistros which do not have a liquor license.

**vii) Delicatessen restaurants**

Restaurants offering foods intended for immediate consumption. The main product line is normally luncheon meats and cheeses. They may offer sandwiches, soups, and salads as well. Most foods are precooked prior to delivery. Preparation of food products is generally simple and only involves one or two steps.

**viii) Ethnic restaurants**

They range from quick-service to upscale. Their menus usually include ethnic dishes and/or authentic ethnic foods. They also specialise in multicultural cuisine not served by any other restaurants. Example: Asian cuisine, Chinese cuisine, Indian cuisine, American cuisine etc.

**ix) Destination restaurants**

A destination restaurant is one that has a strong enough appeal to draw customers from beyond its community.

Example: Michelin Guide 3-star restaurant in Europe, which according to the restaurant guides is "worthy of a journey".

### 3.3 Staff Organisation

Staff organisation is basically concerned with matters such as the decision of tasks within the restaurant, position of responsibility and authority and the relationship between them. It helps in introducing the concept of span of control, level of management and delegation of power and responsibilities. The various positions in the Restaurant Brigade are referred to differently in the French, American and English hotel industry. The list below gives the different versions.

#### 3.4

**Duties and Responsibilities of Restaurant Staff**

All types of catering

<b>French</b>	<b>American</b>	<b>British</b>
Maître D'hôtel Réception	Senior Captain Reception	Head Waiter Reception
Maître D'hôtel De Carré	Senior Captain Station	Head Waiter Station
Chef De Rang Demi-Chef De Rang	Captain Assistant Captain	Station Head Waiter
Commis De Barrasseur	Assistant Steward /Busboy	Assistant Waiter
Apprentice	Apprentice	Trainee

establishments require a variety of staff positions in order to operate effectively and efficiently. The food and beverage service department usually has the largest staff. Able leadership and supervision is required to effectively direct the department and guide the staff. The personnel in the food and beverage service industry require practical knowledge of operations as even a small error can cause displeasure to the guest.

Coordination of activities of all outlets is essential to provide the guest with quality service at all times. Teamwork is the watchword in any food and beverage service department. A dedicated and committed team, with able leadership, under ideal working conditions, helps in fulfilling the establishment's ultimate goal of guest satisfaction. The important duties and responsibilities of the restaurant staffs are discussed below.

#### 3.4.1 Food and Beverage Manager

The food and beverage manager is the head of the food and beverage service department, and is responsible for its administrative and



operational work. Food and beverage managers direct, plan and control all aspects of food and beverage services.

Food and beverage managers require excellent sales and customer service skills, proven human resource management skills, and good communication and leadership skills. Desired knowledge for this position includes knowledge of the products, services, sector, industry and local area, and knowledge of relevant legislation and regulations, as well. Hence, it is said that food and beverage manager is a jack-of-all-trades, as the job covers a wide variety of duties.

In general, food and beverage manager is responsible for:

**i) Budgeting**

The food and beverage manager is responsible for preparing the budget for the department. He should ensure that each outlet in the department achieves the estimated profit margins.

**ii) Compiling new menus and wine lists**

In consultation with the chef, and based on the availability of ingredients and prevailing trends, the food and beverage manager should update and if necessary, compile new menus. New and updated wine lists should also be introduced regularly.

**iii) Quality control**

The food and beverage manager should ensure quality control in terms of efficiency in all service areas, by ascertaining that the staff is adequately trained in keeping with the standards of the unit.

**iv) Manpower development**

The food and beverage manager is responsible for recruitment, promotions, transfers and dismissals in the department. He should hold regular meetings with section heads, to ensure that both routine as well as projected activities of the department go on as planned. He must also give training, motivate and effectively control staff.

### **3.4.2 Assistant Food and Beverage Manager**

The assistant food and beverage manager assists the food and beverage manager in running the department by being more involved in the actual day-to-day operations. This position exists only in large organisations.

An assistant food and beverage manager's job includes:

- assisting section heads during busy periods
- taking charge of an outlet, when an outlet manager is on leave
- setting duty schedules for all the outlet managers and monitoring their performance

- running the department independently in the absence of the food and beverage manager.

### **3.4.3 Restaurant Manager**

Restaurant manager is responsible for directing and supervising all activities pertaining to employee relation, food production, sanitation, guest service and operating profits.

The restaurant manager is either the coffee shop manager, bar manager or the specialist restaurant manager. The restaurant manager reports directly to the food and beverage manager and has overall responsibility for the organisation and administration of a particular outlet or a section of the food and beverage service department. The restaurant manager's job includes:

- setting and monitoring the standards of service in the outlets
- administrative duties such as setting duty charts, granting leave, monitoring staff positions, recommending staff promotions and handling issues relating to discipline
- training the staff by conducting a daily briefing in the outlet
- playing a vital role in public relations, meeting guests in the outlets and attending to guest complaints, if any
- formulating the sales and expenditure budget for the outlet
- planning food festivals to increase the revenue and organising advertisement campaign of the outlet along with the chef and the food and beverage manager.

### **3.4.4 Room Service Manager**

The room service manager reports directly to the food and beverage manager and is responsible for the room service outlet.

The room service manager checks that the service rendered to the guests conforms to the standards set by the hotel. He also monitors all operational aspects of the outlet such as service, billing, duty charts, leave and absenteeism, in addition to attending to guest complaints regarding food and service.

The room service manager is also in charge of the sales and expenditure budget. The room service is most liable to have problems. The room service manager should ensure coordination among the room service order taker, the captain and the waiter. It is necessary for the room service manager to be present in the outlet during peak hours to interact with other departments of the hotel and to take regular stock of all the equipment used. If the hotel offers valet service, the room service manager takes charge of that service as well.

### **3.4.5 Bar Manager**

The bar manager organises and controls bar operations. A bar manager arranges the purchase and pricing of beverages according to budget; selects, trains and supervises bar staff; maintains records of stock levels and financial transactions; makes sure bar staff follow liquor laws and regulations; and checks on customer satisfaction and preferences.

The bar manager should have good interpersonal skills and good memory. He must be efficient and speedy, must enjoy working with people. He should have good cash-handling skills.

### **3.4.6 Banquet Manager**

The banquet manager supervises banquet operations, sets up break-down service according to the standards established by the hotel. He coordinates the banquet service in conjunction with other departments involved and prepares weekly schedules for the banquet personnel. From the time the bookings are done till the guest settles the bill, the banquet manager is in charge of all aspects of banquet and conference operations. He supervises the work of the banquet sales assistants, who do the banquet bookings and the captains and waiters who perform the food and beverage service activities under his guidance. He is responsible for organising everything right down to the finest detail.

The banquet manager projects the budget of the banquets, and works in close coordination with the chef in preparing menus. He is responsible for making an inventory of all the banquet equipment and maintaining a balance between revenue and expenditure.

Banquet managers may also be designated as assistant managers in the food and beverage service department.

## **3.5 Other Staff Designations at Various Levels**

The following are the various designations with their job specifications in the food and beverage department:

### **i) Senior captain or maitre d' hotel**

The senior captain has overall responsibility for operations. He prepares the duty charts in consultation with the outlet manager. He oversees the Mise-en-place, cleaning, setting up of the outlet and staffing to ensure that the outlet is always ready for service. The senior captain receives the guests and hands them over to the captain or station holder. He takes orders from guests if the captain is unable to do so. The senior captain should be an able organiser and also be prepared to take over the duties of any member of the staff as and when required.

**ii) Reception head waiter**

This staff member is responsible for accepting any booking and for keeping the booking diary up-to-date. He/she will reserve tables and allocate these reservations to particular stations. The reception head waiter greets guests on arrival and takes them to the table and seats them.

**iii) Captain/chef de rang**

This position exists in large restaurants, as well as in the food and beverage service department of all major hotels. The captain is basically a supervisor and is in charge of a particular section. A restaurant may be divided into sections called stations, each consisting of 4 to 5 tables or 20 to 24 covers. A captain is responsible for the efficient performance of the staff in his station. A captain should possess a sound knowledge of food and beverage, and be able to discuss the menu with the guests.

He should be able to take a guest's order and be an efficient sales person. Specialised service such as gueridon work involves a certain degree of skill, and it is the captain who usually takes the responsibility to do this work.

**iv) Waiters / Commis de Rang/Server**

The waiters serve the food and beverage ordered by a guest and is part of a team under a station captain. They should be able to perform the duties of a captain to a certain extent and be a substitute for the captain if he is busy or not on duty.

They should also be knowledgeable about all types of food and beverages, so that they can effectively take an order from a guest, execute the order and serve the correct dish with its appropriate garnish and accompaniment. They should be able to efficiently coordinate with the other staff in the outlet.

**v) Trainee / Commis De Barrasseur**

The trainees work closely with the waiters, fetching orders from the kitchen and the bar, and clearing the side station in a restaurant. They serve water and assist the waiter. They are mainly responsible for the mise-en-place, and stacking the side board with the necessary equipment for service. The de barrasseur is the 'learner', having just joined the food service staff, and possibly wishing to take up food service as a career.

**vi) Wine Waiter / Sommelier**

Wine waiters have an important role to play in reputed establishments. Their job is to take orders for the service of wine and alcoholic beverages and serve them during the meal. Hence they should be knowledgeable about wines that accompany a particular dish and the manner in which they should be served. They should also be aware of

the licensing laws prevalent in the city and should be efficient sales persons.

**vii) Room Service Waiters / Chef D'etage**

Room service waiters work in the room service outlet, serving food and beverage to guests in their rooms. The order is placed by the guest on telephone, and is recorded on a Kitchen Order Ticket (K.O.T). It is then passed on to the duty captain. The duty captain in turn places the order in the kitchen or the bar, as the case may be. The room service waiter, who has been assigned that order, sets the tray according to the food or beverage ordered, picks up and delivers the order when it is ready.

**viii) Carver / Trancheur**

The carver is responsible for the carving trolley and the carving of joints at the table as required. The carver will plate up each portion with the appropriate accompaniment.

**ix) Floor Service Staff / Floor Waiter**

The floor service staff is often responsible for an entire floor in an establishment or, depending on the size of the establishment, a number of rooms or suites.

Floor service of all meals and breakfast is offered either throughout the day or in a limited time depending on the size of the establishment.

The floor service staff would normally work from a floor pantry or from a central kitchen with all food and drink reaching the appropriate floor and the required room by lift and in a heated trolley.

**x) Lounge staff / Chef de sale**

Lounge staff may deal with lounge service as a specific duty only in a first class establishment. The lounge staff is responsible for the service of morning coffee, afternoon teas, aperitifs and liqueurs before and after both lunch and dinner, and any coffee top ups required after meals. They would be responsible for setting up the lounge in the morning and maintaining its cleanliness and presentation throughout the day.

**xi) Cocktail Bar Staff**

The person who works on the cocktail bar must be responsible, well versed in the skills of shaking and stirring cocktails and should have thorough knowledge of all alcoholic and non-alcoholic drinks, the ingredients necessary for the making of cocktails and of the licensing laws.

**xii) Buffet Assistant / Buffet Chef / Chef de buffet**

The chef de buffet is in charge of the buffet in the room, its presentation, the carving and portioning of food and its service. This staff would

normally be a member of the kitchen team. The cashier is responsible for the takings of the food and beverage operation. This may include making up bills from food and drink check or, alternatively, in a cafeteria, for example, charging customers for their selection of items on a tray.

### **xiii) Counter Assistants**

Counter assistants are found in cafeterias where they would stock the counter and sometimes serve or portion food for customers. Duties may also include some cooking of call order items.

### **xiv) Table Clearers**

Table clearers are responsible for clearing tables and trolleys, specially designed for good stacking of crockery, glassware, cutlery, etc.

## **4.0 CONCLUSION**

You have learnt about the different types of restaurants and the responsibilities of personnel who are involved in the organisation of the food service industry.

### **SELF-ASSESSMENT EXERCISE**

- i. What is a restaurant?
- ii. List the various classifications of restaurants.
- iii. Differentiate between café and coffeehouse.
- iv. Who is the head of the food and beverage service department and what are his/her responsibilities?
- v. What are pubs?

## **5.0 SUMMARY**

A restaurant is a retail establishment that serves prepared food to customers. Service is generally for eating on premises, though the term has been used to describe take-out establishments and food delivery services. The term covers many types of venues and a diversity of styles of cuisine and service. Restaurants often specialise in certain types of food or present a certain unifying, and often entertaining theme. For example, there are seafood restaurants, vegetarian restaurants or ethnic restaurants. Generally speaking, retail establishment selling "local" foods are simply called restaurants, while those selling food of foreign origin are called accordingly, for example, a Chinese restaurant or a French restaurant.

Restaurants can be classified by whether they provide places to sit, whether they are served by wait-staff and the quality of the service, the

formality of the atmosphere, and the price range. Staff organisation is basically concerned with matters such as the division of tasks within the hotel, position of responsibility and authority and the relation between them. It helps in introducing the concept of span of control, level of management and delegation. Teamwork is the watchword in any food and beverage service department. A dedicated and committed team, with able leadership, under ideal working conditions, helps in fulfilling the establishment's ultimate goal of guest satisfaction.

## 6.0 TUTOR-MARKED ASSIGNMENT

Visit four restaurants in a nearby city. Note down their kitchen facilities, infrastructure facilities and service aspects.

## 7.0 REFERENCES/FURTHER READING

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## UNIT 3 FOOD POISONING

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### 1.0 INTRODUCTION

Having learnt about the different types of restaurants in the last unit, we shall learn about the different types of food poisoning and how they can be prevented in this unit.

There are germs everywhere, particularly in and on our bodies. Some of these germs if transferred to food can cause illness and in some cases death. These germs are so small they cannot be seen by the naked eye, and so food which looks clean and does not smell or taste bad may be dangerous to eat if harmful germs have contaminated it and multiplied in it. It is of the utmost importance that everyone who handles food, or who works in a place where food is handled, should know that food must be both clean and safe.

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### 2.0 OBJECTIVES

At the end of this unit, you should be able to:

- discuss the causes of food poisoning
- describe the commonest food poisoning bacteria



- identify 10 ways of preventing food poisoning.

### **3.0 MAIN CONTENT**

#### **3.1 What is Food Poisoning?**

Food poisoning can be defined as an illness characterised by stomach pain and diarrhoea and sometimes vomiting, generally developing within one to 36 hours after eating the affected food.

#### **3.2 Causes of Food Poisoning**

Food poisoning results when harmful foods are eaten. Foods become harmful when contaminated by:

- i. Chemicals which entered foods accidentally during the growth, preparation or cooking of the food;
- ii. Germs (harmful bacteria) which have entered the food from humans, animals or other sources and the bacteria themselves, or toxins (poisons) produced in the food by certain bacteria, have caused the foods to be harmful. By far the greatest number of cases of food poisoning is caused by harmful bacteria.

#### **3.3 Chemical Food Poisoning**

Certain chemicals may accidentally enter food and cause food poisoning. These chemicals are:

- arsenic used to spray fruit during growth, and occasionally fruit has been affected by this poison
- lead poisoning can occur from using water that has been in contact with lead pipes and then drunk or used in cooking
- antimony or zinc poisoning from acid foods stored or cooked in poor quality enameled or galvanized containers can occur
- copper pans should be correctly tinned and never used for storing foods, particularly acid foods, as the food could dissolve harmful amounts of copper
- certain plants are poisonous such as some fungi, rhubarb leaves and the parts of potatoes which are exposed to the sun above the surface of the soil.

#### **3.4 Prevention of Chemical Food Poisoning**

Chemical food poisoning can be prevented by:

- using correctly maintained and suitable kitchen utensils
- obtaining foodstuffs from reliable sources
- care in the use of rat poison, etc.

### 3.5 Bacterial Food Poisoning

Food contaminated by bacteria (germs) is by far the most common cause of food poisoning. Cross-contamination is when bacteria are transferred from contaminated to uncontaminated food via hands, boards, knives, surfaces, etc.

To prevent the transfer of bacteria by cross-contamination, these points should be observed:

- ensure food is obtained from reliable sources
- handle foods as little as possible; when practicable use tongs, palette knives, disposable plastic gloves, etc
- ensure utensils and work surfaces are clean and sanitised
- use cloths impregnated with a bactericide which fades in colour when no longer effective
- pay particular attention when handling raw poultry, meat and fish
- wash raw fruits and vegetables
- clean methodically and as frequently as necessary; clean as you go
- keep foods covered as much as possible
- have boards and knives coloured for particular foods, for example red for raw meat, blue for raw fish, yellow for cooked meat
- take particular care in thorough reheating of made up dishes.

Bacteria are minute, single-celled organisms which can only be seen under a microscope. They are everywhere in our surroundings, and as most bacteria cannot move by themselves they are transferred to something by coming into direct contact with it.

Some bacteria form spores that can withstand high temperatures for long periods of time (even six hours) and on return to favourable conditions revert to normal bacteria again which then multiply.

Some bacteria produce toxins outside their cells so that they mix with the food; the food becomes poisonous and symptoms of food poisoning follow within a few hours of consumption of the food.

Other bacteria cause food poisoning by virtue of large numbers of bacteria in food entering the digestive system, multiplying further and causing an infection.

Certain bacteria produce toxins which are resistant to heat; foods in which this toxin has been produced may still cause illness, even though the food is heated to boiling-point and boiled for half an hour. Some

bacteria will grow in the absence of air (anaerobes); others need air (aerobes).

Bacteria multiply by dividing into two, under suitable conditions, once every 10-20 minutes. Therefore one bacterium could multiply in 10 to 20 hours to between 500 million and 1000 million bacteria.

Not all bacteria are harmful. Some are useful, such as those used in cheese production; some cause food spoilage, such as souring of milk.

Some bacteria which are conveyed by food cause diseases other than food poisoning, diseases known as food-borne diseases. With bacterial food poisoning the bacteria multiply in the food.

The time between eating the contaminated food (ingestion) to the beginning of the symptoms of the illness (onset) depends on the type of bacteria which have caused the illness.

For the multiplication of bacteria certain conditions are necessary:

- food must be the right kind
- temperature must be suitable
- moisture must be adequate
- time must pass.

### **3.5.1 Food**

Most foods are easily contaminated; those less likely to cause food poisoning have a high concentration of vinegar, sugar or salt, or are preserved in some special way.

The following foods are particularly susceptible to the growth of bacteria because of their composition. Extra care must be taken to prevent them from being contaminated.

- i. Stock, sauces, gravies, soups.
- ii. Meat and meat products (sausages, pies, cold meats).
- iii. All foods which are reheated.
- iv. Eggs and egg products.
- v. All foods which are handheld,
- vi. Milk and milk products.

The bacterium 'Campylobacter' causes symptoms similar to salmonella food poisoning and can be present in unpasteurised milk and undercooked chicken.

To prevent diseases being spread by food and water the following measures should be taken:

- water supplies must be purified
- milk and meat products should be pasteurised or otherwise heat treated
- carriers should be excluded from food preparation rooms.

### **3.5.2 Temperature**

Food poisoning bacteria multiply rapidly at body temperature - 37°C. They grow between temperatures of 5°C and 63°C. This temperature is present in a badly ventilated kitchen and for this reason food should not be kept in the kitchen. They should be kept in the larder or refrigerator. Lukewarm water is an ideal heat for bacteria to grow in. Washing-up must not take place in warm water as bacteria are not killed and the conditions are ideal for their growth, therefore pots and pans, crockery and cutlery may become contaminated. Hot water must be used for washing up.

Boiling water will kill bacteria in a few seconds, but to destroy toxins boiling for a half-hour is necessary. To kill the most heat-resistant spores, four to five hours' boiling is required. It is important to remember that it is necessary not only to heat food to a sufficiently high temperature but also for a sufficient length of time to be sure of safe food. Extra care should be taken in warm weather to store foods at low temperatures and reheat thoroughly, foods which cannot be boiled.

Bacteria are not killed by cold although they do not multiply at very low temperatures; in a deep freezer they lie dormant for long periods. If foods have been contaminated before being made cold on raising the temperature the bacteria will multiply. Foods which have been taken out of the refrigerator, kept in a warm kitchen and returned to the refrigerator for use later on may well be contaminated.

### **3.5.3 Moisture**

Bacteria require moisture for growth – they cannot multiply on dry food. Ideal foods for their growth are jellies with meat, custards, creams, sauces, etc.

### **3.5.4 Time**

Under ideal conditions one bacterium divides into two every 20 minutes; in six to seven hours millions of bacteria will have been produced. Small numbers of bacteria may have little effect, but in a comparatively short time sufficient numbers can be produced to cause food poisoning. Particular care therefore is required with foods stored overnight, especially if adequate refrigerated space is not available.

### 3.5.5 Types of Food Poisoning Bacteria

The commonest food poisoning bacteria are:

- the salmonella group (causing food poisoning because of large numbers of bacteria in the food)
- staphylococcus aureus (causing food poisoning due to poison (toxin) production in the food)
- clostridium perfringens (causing food poisoning due to large numbers of bacteria producing toxins in the intestines).

#### **Salmonella group**

These bacteria can be present in the intestines of animals and human beings; they are excreted and anything coming into contact directly or indirectly with the excreta may be contaminated (raw meat at the slaughter house or the unwashed hands of an infected person). Infected excreta from human beings or animals may contaminate rivers and water to be used for drinking purposes, although chlorination of water is very effective in killing bacteria.

Salmonella infection is the result of human beings or animals eating food contaminated by salmonella-infected excreta originating from human beings or animals, so completing a chain of infection. For example, when flies land on excreta of a dog which has eaten infected meat and the flies then go on to food, if that food is then left out in warm conditions for a time, the people who eat that contaminated food could suffer from food poisoning. Foods most affected by salmonella group are poultry, meat and eggs. Contamination can be caused by:

- i. Insects and vermin, because salmonellae are spread by droppings, feet, hairs, etc.
- ii. The food itself (as, very occasionally, with duck eggs).
- iii. Cross-contamination (if a chicken is eviscerated on a board and the board is not properly cleaned before another food (such as cold meat) is cut on the board).
- iv. The food infected by a human being who has the disease or who is a carrier.

Preparation of mayonnaise using raw eggs is a common practice but one which is fraught with danger. The problem is that raw eggs often contain salmonellae. To avoid the consequential high risk of food poisoning unpasteurized eggs are not to be used for preparing mayonnaise. Using raw egg products can be both unwise and costly. It is not illegal to use raw eggs to prepare mayonnaise, but the chances of food poisoning are high. It is advisable to either use commercially made mayonnaise or to use pasteurised eggs.

**Staphylococcus aureus**

These germs are present on human hands and other parts of the skin, or sores, spots etc., and in the nose and throat. Foods affected by “staphylococcus aureus” include foods which have been handled because the hands have been infected from the nose or throat, cuts etc. pork, pressed beef, pies and custards are foods frequently contaminated because they are ideal foods for the multiplication of the bacterium.

**Clostridium perfringens**

These bacteria are distributed from intestines of humans and animals and are found in the soil.

Foods affected by “Clostridium perfringens” include raw meat which is the main source of these bacteria, the spores of which survive light cooking.

**Clostridium Botulinum** is another type of bacterium which causes food poisoning.

**Campylobacter** bacteria are a common cause of diarrhoea. Large numbers are not required to cause illness; poultry and meats are the main foods infected but adequate cooking will kill the bacteria.

**Bacillus cereus** is found in soil where vegetables and cereals, like rice, may grow. Long, moist storage of warm cooked food, especially rice, allows the spores to germinate into bacteria which multiply and produce toxin.

**Listeria** bacteria are aerobic, non-sporing organisms which can cause serious food-borne diseases, particularly in the elderly, the chronically sick or babies. These bacteria are found in soil, vegetables and animal feed. They are killed by correct cooking but grow at refrigeration temperatures and in mildly acidic conditions such as that found in soft cheeses where lactic acid is present.

**Escherichia coli (E. coli)**

Found in the intestinal flora of man and animals, it is usually used as an indicator of faecal contamination of food or water. However, certain strains are known to be pathogenic and produce an enterotoxin in the intestine which results in symptoms of abdominal pain and diarrhoea.

One group of pathogenic, E. coli, is responsible for severe infantile diarrhoea and another group causes travellers’ diarrhoea. E. coli has been recorded at temperature as low as 4°C.

### 3.5.6 Sources of Infection

Food-poisoning bacteria live in:

- The soil;
- Humans – intestines, nose, throat, skin, cuts, sores, spots etc.;
- Animals, insects and birds – intestines and skin etc

### 3.5.7 Prevention of Food Poisoning Bacteria

To prevent food poisoning everyone concerned with food must:

- prevent bacteria from multiplying
- prevent bacteria from spreading from place to place.

This means harmful bacteria must be isolated, the chain of infection must be broken and conditions favourable to their growth eliminated. It is also necessary to prevent harmful bacteria being brought into the premises or getting on to food. This is achieved by a high standard of hygiene of personnel, premises, equipment and food-handling.

The following ways can help to achieve this:

Washing of hands after visiting the toilet, washing of hands before and after handling food, covering of head while cooking, keeping your fingernails trim and clean, keeping your cooking and wash areas clean.etc.

## 3.6 Chemical and Metallic Poisoning

Residues of drugs, pesticides and fertilisers may be present in raw materials. Pesticides sprayed onto fruit and vegetables just prior to harvesting may result in cumulative toxic effects. Chemicals can enter foodstuffs by leakage, spillage or other accidents during processing or preparation. Chemical additives of food have to undergo rigorous tests before they are allowed to be used and are usually harmless. Chemical poisoning may also occur because of the waste, such as mercury compounds, polluting river water used for drinking or food production. Several metals are toxic and if ingested in sufficient quantities can give rise to food poisoning. The symptoms mainly vomiting and abdominal pains usually develop within an hour. Diarrhoea may also occur. Metals may be absorbed by growing crops or contaminate food during processing.

Acid foods should not be cooked or stored in equipment containing any of the following metals:

- i. Antimony: Used in the enamel. Under certain conditions antimony poisoning can occur.

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- ii. Cadmium: Used extensively for plating utensils and fittings for electric cookers and refrigeration apparatus. It is attacked by some acids including fruit and wines. Foods, such as meat, placed directly on the refrigerator shelves containing cadmium may become poisonous.
- iii. Copper: Poisoning can occur when the interior lining of saucepans becomes worn and the copper is exposed.
- iv. Lead: Is a very poisonous metal if ingested. Fruit and leafy vegetables can become contaminated by lead through airborne lead from petrol and incinerators.
- v. Tin and Iron: Most cans used for the storage of food are constructed of tin plated iron sheet. Occasionally, due to prolonged storage, certain acid foods such as pineapples, rhubarb, strawberries, citrus fruits and tomatoes react with the tin plate and hydrogen gas is produced. Iron and tin are absorbed by the food which may become unfit for human consumption.
- vi. Zinc: Is used in the galvanising of metals. Galvanised equipment should not be used in direct contact with food, particularly acid foods.
- vii. Aluminium: There has been for some time some concern over the use of aluminium in kitchens. Some evidence exists that there is a link between pre-senile dementia and aluminium.

### **SELF-ASSESSMENT EXERCISE**

- i. Visit a catering establishment and note their hygiene practices.
- ii. Why is it important to prevent food poisoning?

## **4.0 CONCLUSION**

Ill health which occurs as a result of food poisoning could be prevented if one follows the rules of hygiene.

## **5.0 SUMMARY**

Food poisoning occurs as a result of ingestion of harmful foods which have been contaminated by chemicals and germs. Preventing food poisoning includes obtaining food from reliable sources, ensuring that utensils and work surfaces are clean and sanitised and preventing bacteria from multiplying and spreading from place to place.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. Analyse four chemicals that can cause food poisoning.
2. Mention five points that can help prevent transfer of bacteria by cross-contamination.



## 7.0 REFERENCE/FURTHER READING

Mastercraft Manual. (1990). *Health Hygiene and Safety in the Hotel and Catering Industry*. London: MacMillan Educational Ltd.

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## UNIT 4 FOOD HYGIENE REGULATION

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  - 3.5 Washing Facilities
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  - 3.7 Penalties
  - 3.8 Checklist for Catering Establishments
  - 3.9 Food Safety Act 1990
  - 3.10 Contamination
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  - 3.11 Personal Habits
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- 5.0 Summary
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### 1.0 INTRODUCTION

In unit 3 we looked at different types of food poisoning and how to prevent them. In this unit, we shall study the food hygiene regulation.

Food hygiene laws affect all food businesses, including caterers, primary producers (such as farmers), manufacturers, distributors and retailers. How the legislation affects you will depend on the size and type of your business.

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It is important that you understand that minimum standards of hygiene are set down by law. It is within these regulations required by law that every establishment will have its own way of doing things and staff members should know what these are.

## **2.0 OBJECTIVES**

At the end of this unit, you should be able to:

- explain the personal requirements for food safety
- highlight food safety for food premises
- discuss the general food hygiene regulations (1995)
- discuss temperature control regulations (1995)
- discuss food premises registration regulations (1997).

## **3.0 MAIN CONTENT**

### **3.1 The Food Safety General Food Hygiene Regulations 1995**

These regulations should be known and complied with by everybody involved in the handling of food.

#### **3.1.1 Requirements for Proprietors of Food Premises**

1. Proprietors of food premises are expected to operate hygienically.
  - (a) Analyse food hazards;
  - (b) Decide which points are critical to food safety;
  - (c) Implement control and monitoring procedures, review periodically and change when necessary.
2. Premises must be kept clean and in good repair.
  - (a) Designed to permit good hygiene practices
  - (b) Adequate washbasins, toilets and cleaning disinfecting facilities
  - (c) Satisfactory standards of lighting and ventilation.
3. Walls, floors and food- contact surfaces must be easy to clean and where necessary to disinfect.
4. Conveyance and containers used for transporting food must be kept clean and in good repair.
5. Food equipment must be kept clean and in good repair.
6. Food waste and refuse must not be accumulated in food rooms. Adequate provision must be made for its storage and removal.
7. An adequate supply of drinking water must be provided.
8. Food handlers must:
  - (a) keep themselves clean

- (b) wear suitable clean, and where appropriate, protective clothing;
  - (c) not be allowed to work if they are likely to contaminate food.
9. Food, including raw materials, must be fit for human consumption, stored and protected to minimise risk of contamination.
10. Food handlers must be trained and supervised in food hygiene matters.
11. Offenders are punishable on conviction with:
- (a) Fines
  - (b) In serious cases up to 2 years in prison and;

### **3.2 Equipment**

This must be kept clean and in good condition.

### **3.3 Personal Requirements**

- i. All parts of the person liable to come into contact with food must be kept as clean as possible.
- ii. All clothing must be kept as clean as possible.
- iii. All cuts and abrasions must be covered with a waterproof dressing.
- iv. Spitting is forbidden.
- v. Smoking is forbidden in a food room or where there is food.
- vi. As soon as a person is aware that he is suffering from or is a carrier of such infections as typhoid, paratyphoid, dysentery, salmonella or staphylococcal infection he must notify his employer, who must notify the Medical Office of Health.

### **3.4 Requirements for Food Premises Toilets**

- i. These must be clean, well lighted and ventilated.
- ii. No food room shall contain or directly communicate with a toilet.
- iii. A notice requesting people to wash their hands after using the toilet must be displayed in a prominent place.
- iv. The ventilation of the soil drainage must not be in a food room.
- v. The water supply to a food room and toilet is only permitted through an efficient flushing cistern.

### **3.5 Washing Facilities**

- i. Hand basins and an adequate supply of hot water must be provided.
- ii. Supplies of soap and hand drying facilities must be available by the hand basins.

### **3.6 Other Facilities**

- i. First Aid: bandages and waterproof dressings must be provided in a readily accessible position.
- ii. Lockers: enough storage space must be available for outdoor clothes.
- iii. Lighting and ventilation: food rooms must be suitably lit and ventilated.
- iv. Sleeping room: rooms in which food is prepared must not be slept in.
- v. Refuse: refuse must not be allowed to accumulate in a food room. Waste bins must be lidded.
- vi. Buildings: the structure of food rooms must be kept in good repair to enable them to be cleaned and to prevent entry of rats, mice, etc.
- vii. Storage: foods should not be placed in a yard lower than 0.5m (18in) unless properly protected.

### **3.7 Penalties**

Any person guilty of an offence shall be liable to a heavy fine and/or a term of imprisonment. Under the latest Food Safety Act, unhygienic premises can be closed down by a local authority immediately, on the advice of the Environmental Health Officer.

The Environmental Health Officer when visiting premises will probably check for:

- i. Grease in ventilation ducts and on canopies.
- ii. Long-standing dirt in less accessible areas.
- iii. Cracked or chipped equipment.
- iv. Provision for staff toilets and clothing.
- v. 'Now wash your hands' notice
- vi. Adequate and correct storage of food (cooked food stored above raw food if provision is not made for separate refrigeration).
- vii. Correct storage temperature of foodstuffs.
- viii. Signs of pests and how they are prevented.
- ix. Any hazards.
- x. Cleaning, training records and proper supervision.

### **3.8 Checklist for Catering Establishments**

- i. Entrances and exits unobstructed.
- ii. Fire doors undamaged and in operating position.
- iii. Escape routes clearly indicated.
- iv. Fire-fighting equipment visible and accessible.
- v. Good lighting.
- vi. Suitable supply of hot and cold water.
- vii. Good ventilation.
- viii. Separate hand-washing basin.

- ix. Soap, nail-brush (if provided) and towels by basin.
- x. Floors in good repair clean and dry.
- xi. Equipment operating correctly.
- xii. Guards on machines.
- xiii. All surfaces undamaged and clean.
- xiv. Staff trained to use machines.
- xv. Notice concerning use of machine close to it.
- xvi. Suitable protective clothing worn.
- xvii. Food, equipment and cleaning materials stored properly.
- xviii. Rubbish bins covered and emptied regularly.
- xix. Staff works in accordance with safety guidelines.

### **3.9 Food Safety Act 1990**

The Food Safety (General Food Hygiene) Regulations 1995

The Food Safety (Temperature Control) Regulations 1995

The Food Premises (Registration) Regulations 1997

All the above stipulate that food safety is achieved provided you:

- keep yourself clean;
- keep the workplace clean;
- wear suitable clean clothing;
- protect food from contamination;
- store, prepare, serve and display food at the correct temperature;
- inform manager if you have an illness;
- do not work with food if you have food poisoning symptoms.

#### **You will have complied with the Food Safety Act 1990**

Food poisoning is an illness acquired from eating contaminated food. This usually means contaminated with bacteria, viruses or a chemical poisonous plant or an actual physical item.

### **3.10 Contamination**

Bacterial and viral contamination comes from people, animals, insects, raw food, rubbish, dust, water and the air.

Chemical contamination may come from pesticides or cleaning fluids.

Physical contamination may be from dirty clothing or from touching the food or from a used plaster lost from a finger.

#### **3.10.1 Cross Contamination**

To avoid cross contamination it is important that the same equipment is not used for handling raw meat and milk products without being disinfected. To prevent the inadvertent use of equipment for raw meat

and high risk foods, it is recommended that where possible different colours and shapes are used to identify equipment used for different purposes as well as for different products as follows:

Yellow	Food preparation areas
Green	Food and beverage service
Blue	General purpose
Red	Toilet areas

**Cutting boards and knives:**

White	Dairy products
Grey	Bread
Green	Fruit
Brown	Vegetables
Red	Raw meat
Yellow	Cooked meat
Blue	Raw fish

### 3.11 Personal Habits

- i. Avoid touching hair, ears, nose, mouth and spots when preparing food.
- ii. Never use handkerchief, use disposable tissues.
- iii. Do not sneeze or cough over food.
- iv. Do not bite your nails.
- v. Use utensils to handle food whenever possible, not your fingers.

Always wash hands after:

- visiting the toilet
- blowing your nose
- handling money
- disposing of rubbish
- cleaning.

### 3.12 Temperature Control

For bacteria to multiply, they need:

- food
- moisture
- time
- warmth.

By removing warmth from the presence of bacteria we can control or stop the growth of bacteria.

The temperature danger zone is between 5°C and 63°C. The ideal temperature for bacteria to multiply is the same as our body temperature, 37°C.

Keeping food frozen and chilled restricts growth.

Freezer unit - 18°C

Ice cream unit - 15°C

Chilled unit 0 - 5°C

Always close the refrigerator door after use. Heating food to a hot temperature kills bacteria.

Ideally, the cooking temperature should be 70°C or above.

Heat must penetrate all the food and a probe used to ensure that the temperature is hot enough.

Once food has been served it is very important that the minimum temperature for hot food is maintained at all times. The minimum temperature is 65°C. If it does not achieve or maintain the required temperature, it should not be served.

### **3.13 Illness**

The manager must be informed if you are suffering from diarrhoea, cold, sore throat, sickness or skin infection.

### **3.14 Cleaning**

Cleaning protects the food from contamination, bacteria, chemicals, and physically deters pests.

Use hot water with detergent or a sanitiser to breakdown grease and remove dirt.

Rubbish should be disposed of frequently.

### **3.15 Control of Substances Hazardous to Health**

A number of cleaning substances are regarded as hazardous to health. Therefore, a number of precautions have to be taken to control their use.

Firstly, read the label and identify the substance and its potential hazards.



Secondly, use only the right substance for the appropriate job.

Thirdly, check to see if any protective clothing is required.

### **3.15.1 Good Industrial Hygiene Practice**

- i. Do not eat, drink or smoke when using chemicals.
- ii. Use protective clothing as appropriate.
- iii. Wash hands and exposed skin after using chemicals.

### **3.16 Practical Implications of the Temperature Control Regulations**

- i. On receipt of deliveries, goods should be cooled to the proper temperature as soon as possible.
- ii. To account for defrost cycle or breakdown of refrigeration an allowance of 2°C (3°F) is permitted.
- iii. A maximum time of two hours for cold food preparation in the kitchen is tolerated provided there is no more than 2°C (3°F) rise above the 5°C (41°F) or 8°C (46°F) specified temperature.
- iv. Food intended to be served hot at 63°C (115°F) or above can be held at a temperature below 63°C (115°F) but for no more than two hours.
- v. Exception is made for foods served warm (hollandaise sauce). They may be kept for no more than two hours and any remaining must be discarded.
- vi. Foods intended to be served cold 5°C (41°F) or 8°C (46°F) may be held at a higher temperature but for no longer than four hours; it must then be brought back to 5°C (41°F) or 8°C (46°F).
- vii. Displayed foods (sweet trolley, cheese board, self-service display, 'counter display with assisted service') need not be maintained at the required temperature provided displayed food is kept to a minimum and does not exceed four hours.

The main food hygiene regulations of importance to the caterer are the following:

- Food Safety (General Food Hygiene) Regulations 1995
- Food Safety (Temperature Control) Regulations 1995.

These implemented the European Commission (EC) Food Hygiene directive (93/43 EEC). They replaced a number of different sets of regulations including the Food Safety (General) Regulations 1970.

### 3.17 The 1995 Regulations

These regulations are similar in many respects to earlier regulations. However, as with the Health and Safety legislation, these regulations place a strong emphasis on owners and managers to identify the safety risks, and to design and implement appropriate systems to prevent contamination. These systems and procedures are covered by Hazard Analysis Critical Control Points (HACCPs), and/or Assured Safe Catering (ASC).

The regulations place two general requirements on the owners of food businesses:

- i. To ensure that all food handling operations are carried out hygienically and according to the 'Rules of Hygiene'.
- ii. To identify and control all potential food safety hazards, using a systems approach either HACCP or Assured Safe Catering.

In addition there is an obligation by any food handler who may be suffering from or carrying a disease which could be transmitted through food to report this to the employer, who may be obliged to prevent the person concerned from handling food.

Catering establishments have a general obligation to supervise, instruct and provide training in food hygiene commensurate with their employees' responsibilities. Details with regard to how much training is required are not specified in the regulations. However Her Majesty Stationary Office (HMSO) Industry Guide to Catering provides guidance on training which can be taken as a general standard to comply with the legislation.

The HMSO guide suggests three categories of food handlers, all of which need training.

**Category A: Support and front of house staff including:**

Storekeeper, waiter/waitress, bar staff, counter staff, server assistant, cellar, person etc.

**Category B:** Those involved in the preparation of high risk (unwrapped) foods including: chefs, cooks, catering supervisors, kitchen assistants and bar staff who prepare food.

**Category C:** Managers or supervisors who may handle food including all such persons based on site.

Before any food handler starts work they must be given written and verbal instructions on the essentials of food hygiene.

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The second stage of training is hygiene awareness instruction.

**Formal training**

Formal food hygiene training as suggested by the industry guide, going beyond essentials and awareness, is recommended to comply with the law.

**A guide to the training of individuals in food handling**

Category of Staff	Essentials of Food Hygiene	Hygiene Awareness Instruction	Formal Training Level	Formal Training Level 2 and/or 3
<b>A</b>				
Storekeeper Waiting staff Bar Staff Catering Assistants	Yes before starting work.	Yes within 4 weeks (8 weeks for part-time staff)	No	No
<b>B</b>				
Chefs Cooks Supervisors Food Preparation Assistants	Yes before starting work.	Yes within 4 weeks or 3 months for part-timers	Yes	No
<b>C</b>				
Managers Supervisors	Yes before starting work.	Yes within 4 weeks	Yes within 3 months.	Yes but only good practice not essential.

**3.18 The Food Safety (Temperature Control) Regulations 1995**

These regulations came into force on 15 September 1995 and replaced earlier and quite complex regulations. Foods which may be subject to microbiological multiplication must be held at no more than 8°C or 63°C. There are a few exceptions which include food on display, which can be displayed for up to four hours, and also low risk and preserved foods which can be stored at ambient temperatures. Manufacturers can vary upward the 8°C ceiling if there is a scientific basis to do so. Food which is to be served hot should be held at over 63°C.

This requires that any food which is likely to support the growth of pathogens, micro-organisms or the formation of toxins must be kept at or below 8°C. In other words high risk foods, which are ready for consumption without further heat treatment, must be stored under

temperature control. These exceptions include food which has been cooked or re-heated or is for service on display for sale and needs to be kept hot. It also applies to food where there is no health -risk if it is kept at ambient temperature. Any preserved foods, including dehydrated, canned or perhaps where sugar or vinegar is added, fall into this category, provided that these containers have not been opened. If the containers of such foods are open it may be necessary to store the food using temperature control. Foods which require ripening or maturing such as cheese may be kept outside of temperature control, however once the process has been completed they should then be refrigerated.

### **3.19 Registration of premises**

Under the Food Premises (Registration) Regulations 1991 as amended by the Food Premises (Registration) Amendment Regulations 1993 all existing food premises in England, Wales and Scotland, have to register with their local authority.

Anyone starting a new food business must register 28 days before doing so. It is an offence not to be registered.

### **SELF-ASSESSMENT EXERCISE**

- i. Outline seven colours of chopping boards and knives indicating different purpose of each.
- ii. List three good industrial hygiene practices.
- iii. Observe your personal hygiene practice for one week and note where you need improvements.

## **4.0 CONCLUSION**

In this unit, we have successfully looked at what the food hygiene regulations entail. It is important that we put them into practice so as to enjoy a fruitful operation.

## **5.0 SUMMARY**

The main focus of our study was the food safety regulations on personal hygiene, premises registration and temperature control, methods of control of bacterial growth and food poisoning prevention. Bacteria are found almost everywhere. They cause most cases of food poisoning through nose, cuts, throat and foodstuffs like milk, eggs, and meat. They could also be spread through equipment, china and towels. Food poisoning can however be prevented by complying with the rules of hygiene and ensuring that high standards of cleanliness are applied to premises and equipment and by preventing accidents.

## 6.0 TUTOR – MARKED ASSIGNMENT

1. Identify and analyse five practical implications of the temperature control regulations
2. Outline at least seven personal habits that you should cultivate as a food handler.

## 7.0 REFERENCES/FURTHER READING

| Fosket,D., Ceserani,V. & Kinton,R.,(2003). *Theory of Catering*. (10th ed.). London: Bookpower.

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## UNIT 5 THE MENU

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### 1.0 INTRODUCTION

In the last unit, we studied the general food hygiene regulations of 1995. In this unit, we shall learn about the meaning, history, and types of menu and how to organise different types of menu.

Menu is a document that controls and directs an outlet's operations and is considered the prime selling instrument of the restaurant.

It is the statement of food and beverage items available or provided by food establishments primarily based on consumer demand and designed to achieve the objectives of the organisation. It represents the focal point around which components of food service systems are based. The menu is designed carefully with the clientele in mind. The main advantage of a well-planned menu is that it leads to consumer satisfaction. It also helps to motivate the employees for a responsible and successful service. A successful menu depends upon the right combination of foods, prepared perfectly, to the entire satisfaction of the customer.

## **2.0 OBJECTIVES**

At the end of this unit, you should be able to:

- define menu
- trace the history of menu
- list factors to consider before planning the menu
- identify at least four types of menu
- plan different types of menu.

## **3.0 MAIN CONTENT**

### **3.1 What is a Menu?**

In a restaurant, a menu is the list of dishes to be served or available for a diner to select from. The items that are available for the diner to choose from are broken down into various categories, depending on the time of day or the event. The compilation of a menu is the most important part of a caterer's work. It is regarded as an art, acquired only through experience and study. The menu is a link between the guest and the establishment; hence it should be carefully planned by the establishment's professionals, namely the executive chef, the food and beverage manager and the food and beverage controller.

### **3.2 History of Menu**

The word menu dates back to 1718, but the custom of making such a list is much older. In earlier times, the *escriteau* (bill of fare) or menu of ceremonial meals was displayed on the wall for the kitchen staff to follow the order in which the dishes were to be served. It is said that in olden times, menus were like a large dictionary with sections covering a variety of dishes, menus were lists of food, in seemingly random fashion

with the food being raw, prepared or cooked. Individual menus came into use early in the 19th century and courses began to be formulated. For special occasions seven or so courses might be served e.g. hors-d'oeuvre, soup, fish, entree, sorbet, roast, sweet, savoury. With the formulation of menus, artistry and flair began to influence the various ways of cooking and dishes were created after 'the style of e.g. a la - française or/and given names of important people for whom they had been created e.g. Peach Melba, a simple dish of poached fresh peach, vanilla ice-cream and fresh raspberry puree created by Escoffier at the Savoy for Dame Nellie Melba, a famous opera singer.

As the 20th century advanced and more people of the world moved and settled from country to country so began the introduction of styles of food and service from a wide variety of nations resulting in the number of ethnic dishes and ethnic restaurants which abound today. Eating at work, at school, in hospitals and institutions led to a need for healthy, budget conscious food.

Rapid air transport made it possible for foods from all corners of the globe to be available which together with domestic produce gives those who compose menus a tremendous range of choice.

As time progressed the lengthy single copy menu became smaller but increased in number allowing a number of copies to be placed on a table. Depending on the establishment and the occasion, the menu may be plain or artistic in its presentation.

### **3.3 Types of Menu**

In a restaurant, there are two basic types of menus which are differentiated by the manner in which they are served and priced. A menu may be *a la carte* or table d'hôte.

#### **3.3.1 A La Carte Menu**

An *a la Carte* menu, is a multiple choice menu, with each dish priced separately. If a guest wishes to place an order, *an a la carte* is offered, from which one can choose the items one wants to eat. Traditionally, the original menus that offered consumers choices were prepared on a small chalkboard, *a la carte* in French; so foods chosen from a bill of fare are described as *à la carte*, according to the board.

In an *a la carte* menu all items are cooked to order including the sauces that are made with wine, cream or mustard. Depending on the dish chosen by the guest, the cooking time will vary. It is necessary to inform the guests about the time the preparation might take. An extensive *a la*



*carte* menu is impressive but involves a huge amount of *mise-en-place* (preparation).

**3.3.2 Table D'hôte**

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*Table d'hôte* is a French phrase which literally means "host's table". It is used to indicate a fixed menu where multi-course meals with limited choices are charged at a fixed price. Such a menu may also be called *prix fixe* ("fixed price"). It usually includes three or five courses meal available at a fixed price. It is also referred to as a fixed menu. Because the menu is set, the cutlery on the table may also already be set for all of the courses, with the first course cutlery on the outside, working in towards the plate as the courses progress. In olden days, when the inns or dining establishments offering a limited choice in the menu was not preferred by the guests, they started offering an *a la carte* menu for guests to select the type of food they wanted to eat.

Fixed menus or *table d'hôte* menus are still used in various forms such as buffet menus, conference packages and on special occasions. A *table d'hôte* menu comprises a complete meal at a predetermined price. It is sometimes printed on a menu card or as in the case of banquets, it is agreed upon by the host of the party.

Fixed menus are prevalent in transport catering which include air, rail, and sea passengers. The guests have a variety of fixed or *table d'hôte* menus, with virtually no choice offered to the passengers (except the first class air passengers). Cruise liners may have elaborate fixed menus with multiple choices built into each course.

**Difference between A La Carte and Table D'hôte**

A' La Carte	Table D'Hote
Food is kept in a semi-prepared form and takes time to serve.	Food is kept in fully prepared form and can be served immediately
Food items are individually served and guests pay for what they order.	Menu is collectively priced and the customer has to pay for the full menu whether he consumes a certain dish or not.
There is a vast choice. menu is elaborate	There is limited or no choice. The menu is comparatively small.
Silver is laid according to the dishes ordered.	Silver for the whole menu is laid in advance as the menu is known in advance.

### 3.4 Other Types of Menu

**Special party or function menus:** Menus for banquets or functions of all kinds.

**Ethnic or specialty menus:** These can be set price or dishes individually priced specialising in the food (or religion) of the country or in a specialised food itself: ethnic - Chinese, Indian, kosher, African Caribbean, Greek; specialty - steak, fish, pasta, vegetarian, pancakes.

**Hospital menus:** These usually take the form of a menu card given to the patient the day before service so that his or her preferences can be ticked. Both national health services and private hospitals cater for vegetarians and also for religious requirements.

**Menus for people at work:** Menus which are served to people at their place of work. Such menus vary in standard and extent from one employer to another due to company policy on the welfare of their staff and work-force. There may also be a call-order *a la carte* selection charged at a higher price. The food will usually be mainly American, British or Nigerian with some ethnic dishes and vegetarian dishes. Menus may consist of soup, main course with vegetables, followed by sweets, cheese and yogurts. According to the policy of the management and employee requirements, there will very often be a salad bar and healthy eating dishes included on the menu.

**Menus for children:** In schools there is an emphasis on healthy eating and a balanced diet particularly in boarding schools. Those areas with children of various cultural and religious backgrounds have appropriate items available on the menu. Many establishments provide special children's menus which concentrate on favourite foods and offer suitably sized portions.

**Cyclical menus:** These are menus which are compiled to cover a given period of time: one month, three months, etc. They consist of a number of set menus for a particular establishment, such as an industrial catering restaurant, cafeteria, canteen, director's dining-room, hospital or college refectory. At the end of each period the menus can be used again thus overcoming the need to keep compiling new ones. The length of the cycle is determined by management policy, by the time of the year and by different foods available. These menus must be monitored carefully to take account of changes in customer requirements and any variations in weather conditions which are likely to affect demand for certain dishes. If cyclical menus are designed to remain in operation for long periods of time, then they must be carefully compiled so that they do not have to be changed too drastically during operation.

**Advantages of Cyclical Menus**

- i. They save time by removing the daily or weekly task of compiling menus, although they may require slight alterations for the next period.
- ii. When used in association with cook/freeze operations, it is possible to produce the entire number of portions of each item to last the whole cycle, having determined that the standardized recipes are correct.
- iii. They give greater efficiency in time and labour.
- iv. They can cut down on the number of commodities held in stock, and can assist in planning storage requirements.

**Disadvantages**

- i. When used in establishments with a captive clientele, then the cycle has to be long enough so that customers do not get bored with the repetition of dishes.
- ii. The caterer cannot easily take advantage of 'good buys' offered by suppliers on a daily or weekly basis unless such items are required for the cyclical menu.

**3.5 Factors to be considered before Planning the Menu**

- i. **Competition:** Be aware of any competition in the locality, including prices and quality. It may be wiser to produce a menu quite different.
- ii. **Location:** Study the area in which your establishment is situated and the potential target market of customers.
- iii. **Analyse:** The type of people you are planning to cater for, e.g. office workers in the city requiring quick service.
- iv. **Outdoor catering:** Are there opportunities for outdoor catering or take-away food?
- v. **Estimated cost per head:** Important when catering, for example for hospital: staff and patients, children in schools, workers in industry. Whatever level of catering a golden rule should be 'offer value for money'.
- vi. **Modern trends in food fashions:** should be considered alongside popular traditional dishes. Decide the range of dishes to be offered and the pricing structure. Price each dish separately? Or offer to set two to three course menus? Or a combination of both?
- vii. **Space and equipment in the kitchens:** These will influence the composition of the menu e.g. overloading, use of deep frying pan, salamanders and steamers.
- viii. **Number and capability of staff:** Over-stretched staff can easily reduce the standard of production envisaged.
- ix. **Availability of supplies and reliability of suppliers:**

Seasonal foods and storage space.

x. **Food Allergies**

**Cost factor:** - This is crucial if an establishment is to be profitable. Costing is essential for the success of compiling any menu. Modern computer techniques can analyse costs swiftly and daily.

### 3.6 Pre-planned and Pre-designed Menus

#### Advantages

- i. Pre-planned or pre-designed menus enable the caterer to ensure that good menu planning is practised.
- ii. Before selecting dishes that he or she prefers, the caterer should consider what the customer likes, and the effect of these dishes upon the meal as a whole.
- iii. Menus which are planned and cost in advance allow banqueting managers to quote price instantly to a customer.
- iv. Menus can be planned taking into account the availability of kitchen and service equipment: without placing unnecessary strain upon such equipment.
- v. The quality of food is likely to be higher if kitchen staff is preparing dishes that they are familiar with and have prepared a number of times before.

#### Disadvantages

- i. Pre-planned and pre-designed menus may be too limited to appeal to a wide range of custom.
- ii. They may reduce job satisfaction for staff that has to prepare the same menus repeatedly.
- iii. They may limit the chef's creativity and originality.

### 3.7 Menu Format

In many cases, especially in restaurants, serving haute cuisine, the part or *table d'hôte* menu is beautifully handwritten to emphasise the traditional character of the restaurant. In less fancy restaurants, a modern variant that is similar but simpler is often used: the blackboard, on which are written recommendations concerning the day's specialties.

In general, however, the *table d'hôte* or *a la Carte* menu, which changes daily or cyclically, is prepared in-house (on a typewriter or computer) and duplicated as necessary. A separate menu listing the daily specials might also be prepared. In many restaurants the *table d'hôte* or *a la Carte* menu and the daily specials contain only a fraction of what is offered.

Often an *a la carte* menu, from which the guests can select from an array of dishes that are always available, is also provided. If an *a la carte* menu is offered, the other menus are inserted in or clipped to its folder. The daily menus may also be placed at every seat, but in most establishments they are offered by the service staff along with the regular *a la carte* menu.

### **3.8 Basic Principles of Organising a Menu**

- i. Cold and warm dishes are listed separately.
- ii. Appetisers, soups, seafood and main courses are listed in separate groups.
- iii. In every group the lighter dishes are listed before the richer ones.
- iv. Salads should be highlighted.
- v. If offered, low-calorie foods should be specially indicated, and the number of calories should be stated.
- vi. If foods are prepared with organically grown ingredients, this fact should be highlighted to the discriminating customer.
- vii. Every dish should be described clearly and simply, in an appetising way, without being too flowery.
- viii. House specialties and seasonal items should correspond to the season and should change accordingly. Use a clip-on menu or special insert to attract attention to them.
- ix. The dessert selection should be listed on a separate attractive card. The menu should inform the guests that such a card is available.
- x. The numbering of menu items can save time and confusion, especially with many of the new computerised cash registers.

Numbering, however, discourages communication between guests and the service staff and thus does not help promote sales. For an easy compromise, place one numbered menu at the register or where orders are relayed to the kitchen so that one can punch in the guest's order by number; the guest, however, orders the actual foods with words, not numbers.

### **3.9 The Order of Courses for a Dinner Menu**

A full-course dinner is seldom served today, but the sequence of courses should be respected even if some are omitted. The general standard at present is for a four- or five-course meal to be served for dinner. Theoretically, however, all the courses of a full dinner menu must be studied and learnt by heart so that perfect compilation of menus can be achieved.

## Three-course dinner menu:

- i. Hors d'oeuvre or soup
- ii. Main course with vegetables and potatoes or salad
- iii. Sweet or savory

## Four-course dinner menu:

- i. Hors d'oeuvre or soup
- ii. Fish course
- iii. Main course with vegetables and potatoes or salad
- iv. Sweet or savory

## Five-course dinner menu:

- i. Hors d'oeuvre or soup
- ii. Fish course
- iii. Main course with vegetables and potatoes or salad
- iv. Sweet
- v. Savory

## Six-course dinner menu:

- i. Hors d'oeuvre or soup (potage)
- ii. Fish (poisson)
- iii. Entrée
- iv. Main (releve or remove) with (pommes et legumes ou salade)
- v. Sweet (entremets)
- vi. Savory (savoureux ou bonne bouche)

## Seven-course dinner menu:

- i. Hors d'oeuvres or soup
- ii. Potage
- iii. Poisson
- iv. Entrée
- v. Releve / Remove - Pommes et Legumes
- vi. Roast (roti) - Salade
- vii. Entremets or Bonne / Bonne Bouche

## Eight-course dinner menu:

- i. Hors d'oeuvres
- ii. Potage
- iii. Poisson
- iv. Entrée
- v. Releve / Remove - Pommes et Legumes
- vi. Roti-Salade
- vii. Entremets
- viii. Savories / Bonne Bouche

### 3.10 Examples of Different Menus

#### 3.10.1 Breakfast Menu

Breakfast menus can be compiled from the following foods and can be offered as a continental, *table d' hote*, *a la carte* or buffet. For buffet service customers can self-serve the main items they require with assistance from counter hands. Ideally eggs should be freshly cooked to order. Fruits, Fruit juices, stewed fruit, Yogurts, Cereals: porridge, etc, Eggs: fried, boiled, poached, and scrambled; omelets with bacon or tomatoes, mushrooms or sauté potatoes.

- Fish: kippers, smoked haddock, kedgerree.
- Meats (hot): fried or grilled bacon, sausages, kidneys, with tomatoes, mushrooms or saute potatoes, potato cakes.
- Meats (cold): ham, bacon, pressed beef with sauté potatoes.
- Preserves: marmalade (orange, lemon, grapefruit, ginger), jams honey.
- Beverages: tea, coffee, chocolate.
- Bread: rolls, croissants, brioche, toast, pancakes, waffles.

#### 3.10.2 Tea Menus

These vary considerably, depending on the type of establishment. For example:

- assorted sandwiches
- bread and butter (white, brown, fruit loaf). assorted jams
- scones with clotted cream, pastries, gateaux
- tea (Indian, China, iced, fruit, herb).

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The commercial hotels, tea rooms, public restaurants and staff dining rooms will offer simple snacks, cooked meals and high teas. For example:

- assorted sandwiches
- buttered buns, scones, tea cakes, scotch pancakes, waffles, sausage rolls, assorted bread and butter, various jams, toasted tea-cakes, scones, crumpets, buns
- eggs (boiled, poached, fried omelets)
- fried fish; grilled meats; roast poultry. cold meats and salads
- assorted pastries; gateaux
- various ices, coupes, sundaes
- tea; orange and lemon squash.

### 3.10.3 Light Buffets (Including Cocktail Parties)

Light buffets can include:

- i. Hot savoury pastry patties of e.g. lobster, chicken, crab, salmon, mushrooms, ham.
- ii. Hot chipolatas: chicken livers, wrapped in bacon and skewered.
- iii. Bite-sized items: quiche and pizza, hamburgers, meat balls with savoury sauce or dip, scampi, fried fish en goujons, tartare sauce.
- iv. Savoury finger toast to include any of the cold canapés: these may also be prepared on biscuits or shaped pieces of pastry.
- v. Game chips, gaufrette potatoes, fried fish balls, celery stalks spread with cheese.
- vi. Sandwiches: bridge rolls, open or closed but always small.
- vii. Fresh dates stuffed with cream cheese; crudites with mayonnaise and cardamon dip; tuna and chive Catherine wheels; crab claws with garlic dip; smoked salmon pin wheels; choux puffs with camembert.
- viii. Sweets e.g. trifle charlottes, bavaois, fruit salad, gateaux.

### 3.10.4 Fork Buffets

All food must be prepared enabling it to be eaten with a fork or spoon.

### 3.10.5 Fast-food Menus

Although some people are scornful of the items on this type of menu, calling them 'junk food', nevertheless their popularity and success is proven by the fact that from the original McDonald's, opened in Chicago in 1955, there are many thousands of outlets world-wide. McDonald's offer customers a nutrition guide to their products, and also information for diabetic patients.

### 3.10.6 Banquet Menus

When compiling banquet menus, consider:

- i. The food, which will possibly be for a large number of people, must be dressed in such a way that it can be served fairly quickly. Heavily garnished dishes should be avoided.  
If a large number of dishes have to be dressed at the same time, certain foods deteriorate quickly and do not stand storage, even for a short time in a hot plate.  
A normal menu is used, bearing in mind the number of people involved. It is not usual to serve and would usually consist of three courses. A luncheon menu could be drawn from the following and



would usually consist of three courses. Dinner menus, depending on the occasion, generally consist of three to five courses.

- ii. First course: soup, cocktail (fruit or shellfish), hors-d'oeuvre, assorted or single item, a small salad.
- iii. Second course: fish, usually poached, steamed roasted or grilled fillets with a sauce.
- iv. Third course: meat, poultry or game, hot or cold, but not a stew or made-up dish- vegetables and potatoes or a salad would be served.
- v. Fourth course: *if* the function is being held during the asparagus season, then either hot or cold asparagus with a suitable sauce may be served as a course on its own.
- vi. Fifth course: sweet, hot or cold, and/or cheese and biscuit.

### SELF-ASSESSMENT EXERCISE

- i. What is a menu?
- ii. Identify three importance of menu to you as a caterer.
- iii. List four advantages of cyclical menus.
- iv. Design a menu cover, bearing in mind the theme of your proposed restaurant.

## 4.0 CONCLUSION

You have been taught the importance of menu and how the design of your menu can promote your restaurant. The main advantage of a well-planned menu is that it leads to consumer satisfaction. It is important that the right combination of food is prepared perfectly to the entire satisfaction of the customer.

## 5.0 SUMMARY

Menu is the statement of food and beverage items available or provided by food establishments, primarily based on consumer demand and designed to achieve organisational objectives. A successful menu depends upon composition; the right combination of foods, prepared perfectly, to the entire satisfaction of the customer. In a restaurant, there are two different types of menus which are differentiated by the manner in which they are priced. A menu may be *a la carte* or *table d'hôte*. An *a la carte* menu is a multiple choice menu, with each dish priced separately. A *table d'hôte* is a fixed menu where multi-course meals with limited choices are charged at a fixed price.

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In many cases, especially in restaurants, serving haute cuisine, the part or *table d'hôte* menu is beautifully handwritten to emphasis the traditional character of the restaurant. In less fancy restaurants, a modern

variant that is similar but simpler is often used: the blackboard, on which are written recommendations concerning the day's specialties.

In general, however, the *table d'hôte* or *a la Carte* menu, which changes daily or cyclically, is prepared in-house (on a typewriter or computer) and duplicated as necessary. Menu language should be simple and accurate in dish description; menu should be planned without unnecessary repetition of flavours and colours. Numbering of menu items save time and confusion.

## 6.0 TUTOR-MARKED ASSIGNMENT

1. Explain the factors that constitute a successful menu.
2. Mention five examples of hors d'oeuvres.
3. Enumerate the different types of menus in detail.
4. Differentiate *a la carte menu* with *table d'hôte* menu.
5. What are the basic principles of organising a menu?

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## MODULE 2

Unit 1	Food Commodities: Meat, Poultry and Game
Unit 2	Food Commodities: Fish
Unit 3	Food Commodities: Vegetables and Fruits
Unit 4	Food Commodities: Eggs and Dairy Products
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### UNIT 1     **FOOD COMMODITIES: MEAT, POULTRY and GAME**

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## 1.0 INTRODUCTION

In the last unit, we explained the meaning, history and different types of menu. In this unit, we shall look at how to select, store and preserve some food commodities such as meat, poultry and game.

The study of food commodities is a cornerstone to the success of the food and beverage industry. It is therefore recommended that you explore the markets to get to know both fresh foods and all possible substitutes such as convenience or ready-prepared foods.

## 2.0 OBJECTIVES

At the end of this unit, you should be able to:

- explain how to select, store and preserve different types of meat
- discuss how to select, store and preserve poultry
- describe how to select, store and preserve different types of game.

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## 3.0 MAIN CONTENT

### 3.1 Meat

Cattle, sheep and pigs are reared for fresh meat and certain pigs are specifically produced for bacon. Tenderness, flavour and moistness are increased if beef is hung after slaughter. Pork and veal are hung for three to seven days according to the temperature. Meat is generally hung at a temperature of 1°C (34°F).

### 3.1.1 Carcass Hanging

The method of carcass hanging can give rise to marked differences in eating quality. Hanging the carcass by the hip bone (aitch bone) instead of the traditional Achilles tendon, puts tension on the important muscles of the hindquarter. This 'stretching' effect makes them tenderer. Traditionally, carcasses were 'hung' (held as carcasses) for a period of several days.

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In fact, boning can take place as soon as 12 hours (pigs), 24 hours (sheep) or 48 hours (cattle) after slaughter provided a period of ageing is allowed following butchery.

### 3.1.2 Ageing of Meat

Like cheese and wine, meat benefits both from a period of ageing or maturation, before it is consumed. This gives an increase in both the tenderness and flavour. The increase in tenderness occurs as enzymes, naturally present within the meat, break down key proteins. The so called chaplain enzymes are important for the development of tenderness. Flavour may be increased by the release of small protein fragments with strong flavour. Enzymes released from the lysosomes (cell bodies that store protein attacking enzymes) may also be involved. Minimum ageing periods of 7 days from slaughter to consumption are often recommended for beef, lamb and pork.

### 3.1.3 Storage

Meat should be stored at its appropriate temperature, usually between 1°C and 5°C (34-41°F). Raw meat should be stored separately from cooked meat or meat products. Chilled meat must be used by the 'use-by date' unless written permission to use it later has been given by the supplier.

Temperatures of chillers and freezers should be measured regularly. Chilled cooked meat must generally be stored below 8°C (46.4 °F) but if it has been prepared for consumption without further cooking or reheating the temperature must be at or below 5°C (41°F). Cut or sliced, smoked or cured meats must be stored at or below 5°C (41°F).

### 3.1.4 Cuts and Joints

For economic reasons of saving on labour and storage space, very many caterers purchase meat by joints or cuts rather than by the carcass.

### 3.1.5 Food Value

Meat has high protein content; it helps in the growth of the body and is a source of energy. It is an important source of several vitamins, minerals and other nutrients e.g. vitamins B<sub>2</sub>, A and D, zinc and iron.

### 3.1.6 Preservation

**Salting:** Meat can be pickled in brine, and this method of preservation may be applied to silverside, brisket and ox-tongues. Salting is also used in the production of bacon, before the sides of pork are smoked. This also applies to hams.

**Chilling:** This means that meat is kept at a temperature just above freezing point in a controlled atmosphere.

**Freezing:** Small carcasses, such as lamb and mutton, can be frozen and the quality is not affected by freezing. They can be kept frozen until required and then thawed out before being used. Some beef is frozen, but it is inferior in quality to chilled beef.

**Canning:** Large quantities of meat are canned and corned beef is of importance since it has very high protein content. Pork is used for tinned luncheon meat.

## 3.2 Beef

The hanging or maturing of beef at a chill temperature of 1°C (34°F) for up to 14 days has the effect of increasing tenderness and flavour. This hanging process is essential as animals are generally slaughtered around the age of 18 months, and the beef can be tough.

Large quantities of beef are prepared as chilled boneless prime cuts, vacuum packed in film. This process has the following advantages: it extends the storage life of the cuts. The cuts are boned and fully trimmed thus reducing labour costs and storage space.

It is essential to store and handle vacuum packed meat correctly. Storage temperature should be 0°C (32°F) with the cartons the correct way up so that the drips cannot stain the fatty surface. A good circulation of air should be allowed between cartons.

When required for use, the vacuum film should be punctured in order to drain away any blood before the film is removed. On opening the film a slight odour is usually discernible, but this should quickly disappear on exposure to the air. The vacuum packed beef has a deep red colour, but

when the film is broken the colour should change to its normal characteristic red within 20-30 minutes. Once the film is punctured the meat should be used as soon as possible.

### **Quality**

- i. Lean meat should be bright red, with small flecks of white fat (marbled).
- ii. The fat should be firm, brittle in texture, creamy white in colour and odourless.
- iii. Meat of traceable origin is best.
- iv. The flesh of veal should be pale pink, firm, not soft or flabby.
- v. Cut surfaces must not be dry, but moist.
- vi. Bones in young animals should be pinkish white, porous and with a small amount of blood in their structure
- vii. The kidney ought to be firm and well covered with fat.
- viii. Welfare veal comes from calves that are loosely penned. Consequently, the colour of the meat is a deeper shade of pink.

## **3.3 Pork**

- i. Lean flesh of pork should be pale pink.
- ii. The fat should be white, firm, smooth-and not excessive.
- iii. Bones must be small, fine and pinkish.
- iv. The skin, or rind, ought to be smooth.

### **3.3.1 Boars**

Boars are wild or un-castrated male pigs. The meat of boars is available from special farms. It is better to obtain good quality animals from suppliers using as near as possible 100% pure breeding stock. Animals that are free to roam and forage for food have a much better flavour than farm reared ones that have been penned and fed. Animals are best between 12-18 months old weighing 70-75 kg on the hoof. Slaughtering is best done during late summer when the fat content is lower. Recommended hanging time is between 7-10 days at a temperature between 1 and 4°C. Marinating greatly improves the taste and texture of boar meat before cooking.

### **3.3.2 Bacon**

Bacon is the cured flesh of a pig (60-75 kg (120-150 lb) dead weight) often specifically reared for bacon because its shape and size yield economic bacon joints.

The curing process consists of salting either by a dry method and smoking, or by soaking in brine followed by smoking.

Un-smoked bacon is brine cured but not smoked; it has a milder flavour but does not keep as smoked bacon.

- i. There should be no sign of stickiness.
- ii. There must be no unpleasant smell.
- iii. The rind should be thin, smooth and free from wrinkles.
- iv. The fat ought to be white, smooth and not excessive in proportion to the lean.
- v. The lean meat of bacon should be deep pink in colour and firm.

### **3.4 Hams**

#### **Lamb and mutton**

- i. Lamb is generally meat from animals under one year old - mutton is the term for older animals.
- ii. The carcass should be compact and evenly fleshed.
- iii. The lean flesh of lamb ought to be firm and of a pleasing dull red colour and of a fine texture or grain.
- iv. The fat should be evenly distributed, hard, brittle, flaky and clear white in colour.
- v. The bones should be porous in young animals.
- vi. The factors influencing lamb composition, quality and value are essentially similar to those previously described for beef.

### **3.5 Offal and Other Edible Parts of the Carcass**

Offal is the name given to the edible parts taken from the inside of the carcass: liver, kidney, heart and sweetbread. Tripe, brains, oxtail, tongue and head are sometimes included under this term. Fresh offal (unfrozen) should be purchased as required and can be refrigerated under hygienic conditions at a temperature of  $-1^{\circ}\text{C}$  ( $30^{\circ}\text{F}$ ), at relative humidity of 90% for up to seven days. Frozen offal should be kept frozen until required.

#### **3.5.1 Tripe**

Tripe is the stomach lining or white muscle of beef cattle. Honeycomb tripe is from the second compartment of the stomach and considered the best. Smooth tripe is the first compartment of the stomach, and is not considered to be as good as honeycomb tripe. Sheep tripe, darker in colour, is obtainable in some areas. Tripe may be boiled or braised.



### **3.5.2 Oxtail**

Oxtails should be (11/2 – 13/4kg) (3-51b), lean and with no signs of stickiness. They are usually braised or used for soup.

### **3.5.3 Suet**

Beef suet should be creamy white, brittle and dry. It is used for suet paste. Other fat should be fresh and not sticky. Suet and fat may be rendered down for dripping.

### **3.5.4 Bones**

Bones must be fresh, not sticky; they are used for stock, which is the base for soups and sauces.

### **3.5.5 Liver**

Calves' liver is the most expensive and is considered the best in terms of tenderness and delicacy of flavour and colour.

Lamb's liver is mild in flavour, tender and light in colour.

Ox or beef liver is the cheapest and if taken from an older animal can be coarse in texture and strong in flavour.

Pig's liver is full flavoured and used in many pate recipes.

### **Quality**

- i. Liver should appear fresh and have an attractive colour.
- ii. It must not be dry or contain tubers.
- iii. It should be smooth in texture.

### **Food Value**

Liver is valuable as a protective food; it consists mainly of protein and contains useful amounts of vitamin A and iron.

### **3.5.6 Kidney**

Lamb's kidney is light in colour, delicate in flavour and is ideal for grilling and frying.

Calf's kidney is light in colour, delicate in flavour and can be used in a wide variety of dishes. Ox kidney is dark in colour, strong in flavour and is generally used mixed with beef, for steak a kidney pie or pudding.

Pig's kidney is smooth, long and flat by comparison with sheep's kidney; it has a strong flavor

### **Quality**

- i. Ox kidney should be fresh and deep red in colour.
- ii. Lamb's kidney should be covered in fat which is removed just before use; the fat should be crisp and the kidney moist.

### **Food Value**

The food value of kidney is similar to liver, i.e. containing vitamin A and iron.

### **3.5.7 Hearts**

Ox or beef hearts are the largest used for cooking. They are dark coloured, solid and tend to be dry and tough.

Calf's heart, coming from a younger animal, is lighter in colour and tenderer.

Lamb's heart is smaller and lighter and is normally served whole. Larger hearts are normally sliced before serving.

### **Quality**

Hearts should not be too fatty and should not contain too many tubes. When cut they should be moist.

### **Food Value**

They have high protein content and are valuable for growth and repair of the body.

### **3.5.8 Tongue**

- i. Tongues must be fresh.
- ii. They should not have an excessive amount of waste at the root end.
- iii. Ox tongues may be used fresh or salted.
- iv. Sheep's tongues are used unsalted.

### **3.5.9 Sweetbreads**

Sweetbread is the name given to two glands, one is the pancreas and is undoubtedly the best as it is round flat and plump; the other is the elongated sausage-shaped thymus gland.

#### **Quality**

Sweetbread should be fleshy, large and creamy white in colour.

#### **Food Value**

Sweetbreads are valuable foods, particularly for hospital diets. They are very easily digested and useful for building body tissues.

## **3.6 Meat Substitutes**

### **3.6.1 Textured Vegetable Protein (TVP)**

This is a meat substitute manufactured from protein derived from wheat, oats, cotton-seed, soya bean and other sources. The main source of TVP is the soya bean, due to its high protein content. TVP is used chiefly as a meat extender, varying from 10-60% replacement of fresh meat. Some caterers on very tight budgets make use of it, but its main use is in food manufacturing. By partially replacing the meat in certain dishes, such as casseroles, stews, pies, pasties, sausage rolls, hamburgers, meat loaf and pate, it is possible to reduce costs, provide nutrition and serve food acceptable in appearance.

### **3.6.2 Myco-Protein**

A meat substitute is being produced from a plant which is a distant relative of the mushroom. This myco-protein contains protein and fibre and is the result of a fermentation process similar to the way yogurt is made. It may be used as an alternative to chicken or beef or in vegetarian dishes.

### **3.6.3 Quorn**

Quorn is the brand name of Rank Hovis McDougall's myco-protein, produced by fermentation process from a plant which is a distant relative of the mushroom (fungi).

## **3.7 Poultry**

Poultry is the name given to domestic birds specially bred to be eaten and for their eggs.

**Season**

Owing to present-day methods of poultry breeding and growing, poultry is available all the year round either chilled or frozen.

**Food Value**

The flesh of poultry is more easily digested than that of butchers' meat. It contains protein therefore useful for building and repairing body tissues and providing heat and energy. Fat content is low and contains a high percentage of unsaturated acids.

**Storage**

Fresh poultry must be hung by the legs under chilled conditions; the innards are removed as soon as possible after slaughter.

Frozen birds must be kept in a deep-freeze cabinet below  $-5^{\circ}\text{C}$  until required. To reduce food poisoning, it is essential that frozen birds be completely thawed, preferably in a refrigerator before being cooked. Chilled birds should be kept between  $3^{\circ}\text{C}$  and  $5^{\circ}\text{C}$ .

**Quality**

- i. The feet and bills should be bright yellow.
- ii. The upper bill should break easily.
- iii. The web feet must be easy to tear. Ducks and geese may be roasted or braised.

**3.7.1 Turkey****Quality**

- i. The breast should be large, the skin undamaged and with no signs of stickiness.
- ii. The legs of young birds are black and smooth; the feet supple with a short spur.
- iii. As the bird ages the legs turn reddish grey and become scaly. The feet become hard.

Turkeys are usually roasted and served hot or cold. Turkey meat is also used for a variety of dishes.

**3.7.2 Guinea Fowl**

When plucked this grey-and-white feathered birds resemble a chicken with darker flesh. The young birds are known as squabs.

The quality points relating to chicken apply to guinea fowl.

### **3.7.3 Pigeon**

Pigeon should be plump, the flesh mauve-red in colour and the claws pinkish. Tame pigeons are smaller than wood pigeons. Squabs are young specially reared pigeons.

### **3.7.4 Peacock**

Peacock has a light, gamey flavour, similar to guinea fowl and should be treated like a well exercised turkey.

### **3.7.5 Ostrich**

Ostrich is usually sold as a fillet (taken from the thigh) or leg steak. The neck or offal is also available and is cheaper. It is often compared to beef, but it has a slightly coarser texture with less fat and cholesterol.

## **3.8 Game**

Game is the name given to certain wild birds and animals which are eaten; there are two kinds of game:

- i. Feathered
- ii. Furred.

### **3.8.1 Food Value**

As it is less fatty than poultry or meat, game is easily digested, with the exception of water fowl, which has oily flesh. Game is useful for building and repairing body tissues and for energy.

### **3.8.2 Storage**

- i. Hanging is essential for all game. It drains the flesh of blood and begins the process of disintegration which is vital to make the flesh soft and edible, and also to develop flavour.
- ii. The hanging time is determined by the type, condition and age of the game and the storage temperature.
- iii. Old birds need to hang for a longer time than young birds.
- iv. Game birds are not plucked or drawn before hanging.
- v. Venison and hare are hung with the skin on.
- vi. Game must be hung in a well-ventilated, dry, cold storeroom; this need not be refrigerated.
- vii. Game birds should be hung by the neck with the feet down.

### 3.9 Venison

Venison is the flesh from any member of the deer family which includes elk, moose, reindeer, caribou and antelope. Red deer meat is a dark, blood-red colour; the flesh of the roe deer is paler and the fallow deer is considered to have the best flavour.

Meat from animals over 18 months in age tends to be tough and dry and is usually marinated to counteract this. Young animals up to 18 months produce delicate, tender meat which does not require marinating.

Venison contains 207 calories per 100g and young venison has only about 6% fat (compared to beef, lamb and pork around 20% fat). It has the highest protein content of the major meats.

Venison is very suitable for a low-cholesterol diet because the fat is mainly poly unsaturated. The carcass has little intramuscular fat; the lean meat contains only low levels of marbling fat. Joints should be well fleshed and a dark brownish red colour. Venison is usually roasted or braised in joints, served hot or cold with a peppery/sweet type sauce. Small cuts may be fried and served in a variety of ways.

### 3.10 Other Meats

1. Alligator: Has a white meat, with a veal-like texture and a shellfish-like flavour.
2. Bison: Should be treated like a gamey, well-hung version of beef. However, it needs to be cooked quickly and served rare or medium rare.
3. Camel: Is available as fillet, steak or diced. It comes in frozen from Africa.
4. Crocodile: Has a firm-textured, light-coloured meat with a delicate fishy taste, similar to monkfish, that absorbs other flavours well. It is surprisingly fatty.
5. Kangaroo: Is similar to venison in flavour. It has a fine-grained meat which, once cooked is likened in texture to liver and is best served rare or medium rare.
6. Kid: Usually comes from goats bred for their milk. The South African Boer goat, bred for its meat, has a rich, yet delicate flavour with very little fat.

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7. Kudu: Is a breed of wild African antelope that is culled in a controlled way. They are very large and the meat has a stronger flavour than wild venison. It needs to be tenderized by marinating and cooking.

### **Hare and Rabbit**

The ears of hares and rabbits should tear easily. In old hares the lip is more pronounced than in young animals. The rabbit is distinguished from the hare by shorter ears, feet and body.

Hare may be cooked as a red wine stew called jugged hare and the saddle can be roasted.

### **Birds**

- i. The beak should break easily.
- ii. The breast plumage should be soft.
- iii. The breast should be plump.
- iv. Quill feathers should be pointed not rounded.
- v. The legs should be smooth.

### **Pheasant**

This is one of the most common game birds. Average weight is (1 1/2-2 kg (2-4 lb). Young birds have a pliable breast bone and soft pliable feet. Hang for five to eight days. Used for roasting, braising or pot roasting.

### **Partridge**

The most common varieties are the grey legged and the red legged partridges. Average weight is 200-400 (1/2-1 lb). Hang for three to five days. Used for roasting or braising.

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### **Grouse**

A famous and popular game bird is the red grouse. Average weight is 300g (12 oz). Young birds have pointed wings and rounded soft spurs. Hang for five to seven days. Used for roasting.

### **Snipe**

Weight is about 100g (4oz). Hang for three to four days. The heads and neck are skinned, the eyes removed; birds are then trussed with their own beaks. When drawing the birds only the gizzard, gall bladder and intestines are removed. The birds are then roasted with the liver and heart left inside.

### **Woodcock**

This is a small bird with long thin beaks. Average weight is 200-300g (8-12oz). Prepare as for snipe and usually roasted.

**Quail**

Small birds weighing 50-75g (2-3 oz) produced on farms, usually packed in boxes of 12. Quails are not hung. They are usually roasted or braised.

**Wild Duck**

Wild duck include mallard and widgeon. Average weight is 1-1 1/2kg (2-3 lb). Hang for one or two days. Usually roasted or braised.

**SELF-ASSESSMENT EXERCISE**

- i. Why do you hang meat after slaughter?
- ii. Mention four ways by which you can preserve meat.
- iii. What quality do you consider when choosing (i) liver (ii) tongue (iii) hearts (iv) bacon (v) turkey?
- iv. What are the salient points in the storage of game?

**4.0 CONCLUSION**

Meat, poultry and game provide high quality protein for most people. It is therefore important to pay attention to their quality when selecting them for use.

**5.0 SUMMARY**

The list of meat and poultry available to the caterer is by no means exhaustive. They make very good sources of protein and vitamins. The period of ageing or maturation increases the tenderness and flavour of meat. Meat is best stored between 1 and 5°C and can be preserved by salting, chilling, roasting, freezing and canning. It is best to purchase meat of traceable origin.

Lamb is meat from animals under one year while mutton refers to older animals. Venison (flesh from any member of the deer family) is very suitable for low cholesterol diet because it contains mainly poly unsaturated fat. Ageing is essential for all game because it makes the flesh soft and edible and improves flavour.

**6.0 TUTOR –MARKED ASSIGNMENT**

1. Highlight five principles of storing meat.
2. Identify four good qualities of pork.
3. Describe Textured Vegetable Protein (TVP).

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## 7.0 REFERENCE/FURTHER READING

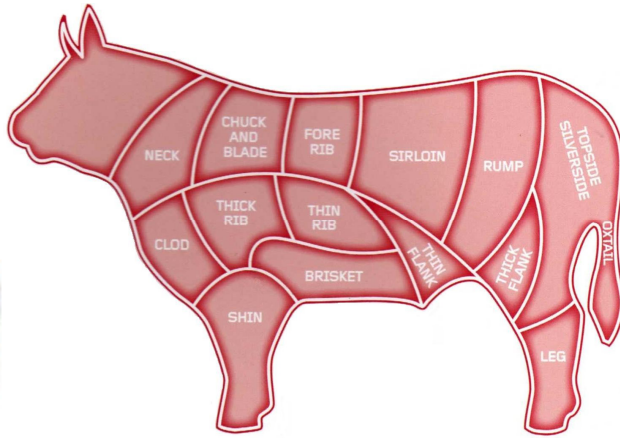
Fosket, D., Ceserani, V., & Kinton, R. (2003). *Theory of Catering*. (10th ed.). London: Book Power Pub.

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### TYPES OF MEAT

#### BEEF



Beef Parts

#### Pork



Boar



Bacon

#### Ham



Lamb

#### Offal and other edible parts of carcass



Tripe



Oxtail



Suet



Liver



Kidney

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Meat Substitute



Quorn

Poultry



Ostrich



Turkey



Guinea fowl



Pigeon



Peacock

Venison



Elk



Antelope

Other Meats



Alligator



Bison



Camel



Crocodile



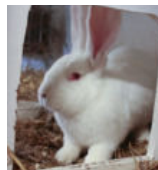
Kangaroo



Kudu



Hare



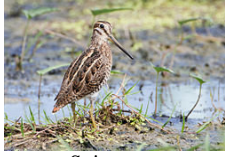
Rabbit



Partridge



Grouse



Snipe



Woodcock



Quail

**UNIT 2 FOOD COMMODITIES: FISH**

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## **1.0 INTRODUCTION**

In unit 1, we discussed about food commodities like meat, poultry and game. In this unit, we shall learn about how to select, store and preserve different types of fish. Fish have formed a large proportion of our food because of their abundance and relative ease of harvesting.

## **2.0 OBJECTIVES**

At the end of this unit, you should be able to:

- identify different varieties of fish
- describe the different methods of purchasing fish
- explain how to select, store and preserve fish.

## **3.0 MAIN CONTENT**

### **3.1 Fish**

Fishes are valuable, not only because they are good sources of protein, but because they are suitable for all types of menus and can be cooked and presented in a wide variety of ways. The range of different types of fish of varying textures, taste and appearance is indispensable to the creative caterer.

#### **3.1.1 Food Value of Fish**

Fish is as useful a source of animal protein as meat. The oily fish, such as sardines, mackerel, herrings and salmon contain vitamins A and D in their flesh; in white fish, such as halibut and cod, these vitamins are present in the liver. Since all fish contains protein. It is a good body (building food and oily fish is useful for energy and as a protective food because of its vitamins.

The bones of sardines, whitebait and tinned salmon, which can be eaten, provide calcium and phosphorus. Owing to its fat content oily fish is not as digestible as white fish and is not suitable for invalids.

#### **3.1.2 Purchasing Unit**

Fresh fish is bought by the kilogram, by the number of fillets or whole fish of the weight that is required. For example, 30kg (66 lb) of salmon could be ordered as 2 x 15 kg (33 lb), 3 x 10 kg (22 lb) or 6 x 5 kg (11 lb). Frozen fish can be purchased in 15 kg (33 lb) blocks. Fish may be bought on the bone or filleted in steaks or supreme. (The approximate

loss from boning and waste is 50% for flat fish, 60% for round fish.) Fillets of plaice and sole can be purchased according to weight. They are graded from 45g (1 1/2 oz) to 180g (6oz) per fillet and go up in weight by 15g (1/2oz).

### 3.1.3 Storage

- i. Fresh fish are stored in a fish-box containing ice, in a separate refrigerator or part of a refrigerator used only for fish at a temperature of 1-2°C (34-36°F).
- ii. The temperature must be maintained just above freezing point. Frozen fish must be stored in a deep-freeze cabinet or compartment at -18°C (0°F).
- iii. Smoked fish should be kept in a refrigerator.

## 3.2 Types of fish

- i. Oily fish - round in shape (herring, mackerel, salmon).
- ii. White fish - round (cod, whiting, and hake) or flat (plaice, sole, turbot).
- iii. Shellfish and cephalopods.

Deleted: hake

### 3.2.1 Oily Fish

#### Anchovies

Anchovies are small round fish used mainly tinned in this country; they are supplied in 60g and 390 g tins. They are filleted and packed in oil. They are used for making anchovy butter and anchovy sauce, for garnishing dishes and for savouries, snacks and salads.

#### 3.2.1.2 Common Eel

Eels live in fresh water and are also farmed and can grow up to 1m (39 in) in length. Eels must be kept alive until the last minute before cooking and they are generally used in fish stews.

#### 3.2.1.3 Conger Eel

The conger eel is a dark grey sea-fish with white flesh which grows up to 3 m (10ft) in length. It may be used in the same way as eels, or it may be smoked.



### **3.2.1.4 Herring**

Fresh herrings are used for breakfast and lunch menus; they may be grilled, fried or soured. Kippers (which are split, salted, dried) and smoked herrings are served for breakfast and also as a savoury. Average weight is 250 g (9oz). King Fish come from the Spanish mackerel family with orangey, pink coloured flesh.

### **3.2.1.5 Mackerel**

Mackerel are grilled; shallow fried, smoked or soured, and may be used on breakfast and lunch menus. They must be used fresh because the flesh deteriorates very quickly. Average weight is 360 g (12oz).

### **3.2.1.6 Pilchards**

These are mature sardines and can grow up to 24cm (10 in). They have a good distinctive flavour and are best grilled or baked.

### **3.2.1.7 Salmon**

Salmon is perhaps the most famous river fish. A considerable number are imported from Scandinavia, Canada, Germany and Japan. Apart from using it fresh, salmon is tinned or smoked. When fresh, it is used in a wide variety of dishes.

### **3.2.1.8 Salmon Trout (Sea Trout)**

Salmon trout is a sea fish similar in appearance to salmon, but smaller, and they are used in a similar way. Average weight, 1<sup>1</sup>/<sub>2</sub>-2kg (3-4 lb).

### **3.2.1.9 Sardines**

Sardines are small fishes of the pilchard family which are usually tinned and used for hors-d'oeuvre, sandwiches and as a savoury. Fresh sardines are also available and may be cooked by grilling or frying.

### **3.2.1.10 Sprats**

Sprats are small fish fried whole and are also smoked and served as hors-d'oeuvre, sandwiches and as a savory.

### **3.2.1.11 Trout**

Trout live in rivers and lakes and can be cultivated on trout farms. Trout may be poached and served grilled or shallow fried, and may also be smoked and served as hors d'oeuvre. Average weight is 200 g (7oz).

### **3.2.1.12 Tuna**

Tuna has dark reddish-brown flesh which when cooked turns to a lighter colour. It has a thin texture and a mild flavour. If overcooked it dries out and is best cooked medium rare. It is used fresh for a variety of dishes or tinned in oil and used mainly in hors-d'oeuvre and salads.

### **3.2.1.13 Whitebait**

Whitebaits are the fry or young of herring, 2-4 cm (f-Hin) long, and they are usually deep fried.

## **3.3 White Flat Fish**

### **3.3.1 Brill**

Brill is a large flat fish which is sometimes confused with turbot. Brill is oval in shape; the mottled brown skin is smooth with small scales. It can be distinguished from turbot by its lesser breadth in proportion to length; average weight, 3-4 kg (7-9 lb). It is usually served in the same way as turbot.

### **3.3.2 Dab**

Dab is an oval-bodied fish with sandy brown upper skin and green freckles. Usual size is 20-30 cm (8-10 in). It has a pleasant flavour when fresh, and may be cooked by all methods.

### **3.3.3 Flounder**

This is oval, with dull brown upper skin (or sometimes dull green with orange freckles). Usual size is 30cm (12in). Flesh is rather watery and lacks flavour, needing good seasoning. It can be cooked by all methods.

### **3.3.4 Halibut**

Halibut is a long and narrow fish, brown, with some darker mottling on the upper side; it can be 3m (10ft) in length and weigh 150kg (330lb).

Halibut is much valued for its flavour. It can be poached, boiled, grilled or shallow fried. It can also be smoked.

### **3.3.5 Megrin**

Megrin has a very long slender body, sandy-brown colour with dark blotches. Usual size is 20-30cm (8-12in). It has a soft flesh and not so good flavour, so needs good flavouring. It is best bread crumbed and shallow-fried.

### **3.3.6 Plaice**

Plaice are oval in shape, with dark brown colouring and orange spots on the upper side, used on all types of menus; they are usually deep fried or grilled. Average weight is 360-450g (12oz-1lb).

### **3.3.7 Skate**

Skate, a member of the ray family, is a very large fish and only the wings are used. It is usually served on the bone and either poached shallow or deep fried or cooked in a court-bouillon and served with black butter.

### **3.3.8 Sole**

Sole is considered to be the best of the flat fish. The quality of the Dover sole is well known to be excellent. Soles are cooked by poaching, grilling or frying. They are served whole or filleted and garnished in a great many ways.

### **3.3.9 Lemon Sole**

This is related to Dover sole, but is broader in shape, and its upper skin is warm, yellowy brown and mottled with darker brown. It can weigh up to 600g (1 lb 5 oz), and may be cooked by all methods.

### **3.3.10 Turbot**

Turbot has no scales and is roughly diamond in shape; it has knobs known as tubercles on the dark skin. In proportion to its length it is wider than brill;  $3\frac{1}{2}$  - 4 kg (8-9 lb) is the average weight. Turbot may be cooked whole, filleted or cut into portions on the bone. It may be boiled, poached, grilled or shallow fried.

### **3.3.11 Witch**

This is similar in appearance and weight to lemon sole, with sandy-brown upper skin. It is best fried, poached, grilled or steamed.

## **3.4 Round Fish**

### **3.4.1 Barracuda**

A game fish with reddish flesh which when cooked turns pastel white. A mild flavoured fish but cooked as a supreme with the skin left on to prevent drying out.

### **3.4.2 Bass**

Bass have silvery grey backs and white bellies; small ones may have black spots. They have an excellent flavour, with white, lean, soft flesh (which must be very fresh). Bass can be steamed, poached, stuffed and baked, or grilled in steaks. Usual length is 30cm (1 ft) but they can grow to 60cm (2ft).

### **3.4.3 Bream**

Sea bream is a short, oval-bodied, plump, reddish fish, with large scales and a dark patch behind the head. It is used on many less expensive menus; it is usually filleted and deep fried, or stuffed and baked, but other methods of cooking are employed. Average weight, 1/2-1 kg (1-2 lb); size 28-30cm (11-12in). Bream are caught fresh or farmed.

### **3.4.4 Carp**

This is a fresh water fish, usually farmed. The flesh is white with a good flavour, and is best poached in fillets or stuffed and baked. The usual size is 1-2 kg (2-4lb).

### **3.4.5 Cod**

Cod varies in colour but is mostly greenish, brownish or olive grey. It can measure up to  $1\frac{1}{2}$ m (5ft) in length. Cod is cut into steaks or filleted and cut into portions; it can be deep or shallow fried or poached. Small cod are known as codling. Average weight of cod is  $2\frac{1}{2}$ - $3\frac{1}{2}$  kg (8-8lb).

### **3.4.6 Coley (Saith, Coalfish, Blackjack)**

Coley is dark greenish-brown or blackish in colour, but the flesh turns white when cooked. It has a coarse texture and a dry and not so distinctive flavour, so is best for mixed fish stews, soups or pies. Size is 40-80 cm (16-31 in).

### **3.4.7 Dogfish (Huss, Flake, Rigg)**

These are slender, elongated small sharks. The non-bony white or pink flesh is versatile, and is usually shallow or deep fried. It has a good flavour when very fresh. Length is usually 60cm (24 in) and weight is 1<sup>1</sup>/<sub>4</sub> kg (2<sup>1</sup>/<sub>2</sub> b).

### **3.4.8 Grey Mullet**

This has a scaly streamlined body, which is grey-silver or blue-green. Deep-sea or off-shore mullet has a fine flavour, with firm, moist flesh. It may be stuffed and baked or grilled in steaks. Some people believe that flavour is improved if the fish is kept in a refrigerator for two to three days, without being cleaned. Length is usually about 30cm (1 ft); weight 500g (1 lb 2oz).

### **3.4.9 Grouper**

There are different types of grouper: brown spotted, golden strawberry, red speckled. Grouper have a light pinkish flesh that cooks to a greyish-white with a pleasant mild flavour.

### **3.4.10 Gudgeon**

Gudgeon are small fish found in Continental lakes and rivers. They may be deep fried whole. On menus in this country the French term *en goujon* refers to other fish such as sole or turbot, cut into pieces the size of gudgeon.

### **3.4.11 Gurnard**

It is a large family of tasty fish with many culinary uses.

### **3.4.12 Haddock**

Haddock is distinguished from cod by the thumb mark on the side and by the lighter colour. Every method of cooking is suitable for haddock, and it appears on all kinds of menus. Apart from fresh haddock, smoked

haddock may be served for breakfast, lunch and for a savoury. Average weight is 1/2-2kg (1-4 lb).

### **3.4.13 Hake**

Owing to overfishing, hake is not plentiful. It is usually poached and is easy to digest. The flesh is very white and of a delicate flavour.

### **3.4.14 John Dory**

John Dory has a thin distinctive body, flattened from side to side, which is sandy beige in colour and tinged with yellow, with a blue silver grey belly. There is a blotch on each side referred to as 'thumbprint of St Peter'. It has very tough sharp spikes. The flavour is considered superb, and the fish may be cooked by all methods but is best poached, baked or steamed. The large bony head accounts for two-thirds of the weight. Usual size is 36cm (14 in).

### **3.4.15 Ling**

This is the largest member of the cod family, and is mottled brown or green with a bronze sheen; the fins have white edges. Size can be up to 90cm (3ft). Ling has a good flavour and texture and is generally used in fillets or cutlets, as for cod.

### **3.4.16 Monkfish**

Monkfish has a huge flattened head, with a normal fish-shaped tail. It is brown with dark blotches. The tail can be up to 180cm (6ft); weight 1-10 kg (2-22lb). It may be cooked by all methods, and is a firm, close textured white fish with excellent flavour.

### **3.4.17 Pike**

Pike has a long body usually 60cm (2ft) which is greenish-brown, flecked with lighter green, with long toothy jaws. The traditional fish for quenelles, it may also be braised or steamed.

### **3.4.18 Perch**

Perch has a deep body, marked with about five shadowy vertical bars, and the fins are vivid orange or red. Usual size is 15-30cm (6-12in). It is generally considered to have an excellent flavour, and may be shallow-fried, grilled, baked, braised or steamed.

### 3.4.19 Pollack/Pollock

This is a member of the cod family, and has a similar shape and variable colours. Its usual size is 45 cm (18 in). It is drier than cod, and can be poached, shallow fried or used for soups and stews.

### 3.4.20 Redfish

This is bright red or orange-red, with a rosy belly and dusky gills. Usual size is 45 cm (18 in). It may be poached, baked or used in soups.

### 3.4.21 Red Gurnard (Grey and Yellow Gurnard May also be Available)

This has a large 'mail-checked', tapering body with very spiky fins. Usual size is 20-30 cm (8-12 in). It is good for stews, braising and baking.

### 3.4.22 Red Mullet

Red mullet is on occasion cooked with the liver left in, as it is thought that they help to impart a better flavour to the fish. Mullet may be filleted or cooked whole, and the average weight is 360g (12oz).

### 3.4.23 Rockfish

Rockfish is the fishmonger's term applied to catfish, coalfish, dogfish, conger eel, etc., after cleaning and skinning. It is usually deep fried in batter.

### 3.4.24 Shark

The porbeagle shark, mako or hammerhead is the best type. It is bluish-grey above with a white belly and matt skin. Size is up to 3m (10ft). It may be cooked by all methods, but grilling in steaks or as kebabs is particularly suitable.

### 3.4.25 Smelt

Smelts are small fish found in river estuaries and imported from Holland; they are usually deep fried or grilled. When grilled they are split open. The weight of a smelt is from 60 to 90 g (2-3 oz).

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### 3.4.26 Snapper

There are several kinds of snapper all of which are brightly coloured. Deep red or medium sized ones give the best flavour. Snapper may be steamed, fried, grilled, baked or smoked.

### 3.4.27 Swordfish

Swordfish is popularly grilled, barbecued, roasted or shallow fried.

### 3.4.28 Whiting

Whiting are very easy to digest and they are therefore suitable for cookery for invalids. They may be poached, grilled or deep fried and used in the making of fish stuffing. Average weight is 360 g (12oz).

### 3.4.29 Wrasse

Fish of variable colours but usually tinged with red and blue, covered in white and green spots. Wrasse has a variety of culinary uses and can be baked and steamed.

## 3.5 Shellfish

Shellfish are of two types:

- i. Crustaceans (lobster, crabs)
- ii. Molluscs (oysters, mussels)

### 3.5.1 Crabs

They are used for hors d'oeuvre, cocktails, salads, dressed crabs, sandwiches and bouchees. Soft-shelled crabs are eaten in their entirety. They are considered to have an excellent flavour and may be deep or shallow fried or grilled.

Shellfish is a good body-building food. As the flesh is coarse and therefore indigestible, a little vinegar may be used in cooking to soften the fibres.

### 3.5.2 Crawfish

Crawfish are like large lobsters without claws, but with long antennae. They are brick red in colour when cooked. Owing to their size and appearance they are used mostly on cold buffets but they can be served

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hot. Menu example includes langouste *parisienne* (dressed crawfish Paris-style).

### **3.5.3 Crayfish**

Crayfish are a type of small fresh-water lobster used for salads, garnishing cold buffet dishes and for recipes using lobster. They are dark brown or grey, turning pink when cooked. Average size is 8cm (3 in).

### **3.5.4 Lobster**

Lobsters are served cold in cocktails, hors-d'oeuvre, salads, sandwiches and on buffets. They are used hot for soup, grilled and served in numerous dishes with various sauces.

### **3.5.5 Prawns**

Prawns are larger than shrimps; they may be used for garnishing and decorating fish dishes, for cocktails, canapés, salads, hors d'oeuvre and for dishes such as curried prawns. Prawns are also popular served cold with a mayonnaise type sauce.

### **3.5.6 Scampi, Dublin Bay Prawn**

Scampi are found in the Mediterranean. These shellfish resemble small lobsters about 30 cm (8 in long and only the tail flesh is used for a variety of fish dishes garnishing and salads.

### **3.5.7 Shrimps**

Shrimps are used for garnishes, decorating fish dishes, cocktails, sauces, salads hors d'oeuvre potted shrimps/omelets savouries.

## **3.6 Molluscs**

### **3.6.1 Clams**

There are many varieties the soft or long neck clam such as razor Ipswich and small hard-shell clams such as cherrystones can be eaten raw. Large clams can be steamed, fried or grilled and use for soups (chowders) and sauce.

### 3.6.2 Cockles

These are enclosed in pretty cream-coloured shell of 2-3 cm (1-1½ in). Cockles are soaked in salt water to purge and then steamed or boiled. They may be used in soups, salads and fish dishes, or served as dish by themselves.

### 3.6.3 Mussels

Mussels are extensively cultivated on wooden hurdles in the sea, producing tender/delicately flavoured plump fish. British mussels are considered good. French mussels are smaller. Dutch and Belgian mussels are plumper. All vary in quality from season to season.

Mussels are kept in boxes covered with a damp sack and stored in a cold room. They may be served hot or cold or as a garnish.

### 3.6.4 Oysters

Since the majority of oysters are eaten raw it is essential that they are thoroughly cleansed before the hotel and restaurant receive them.

### 3.6.5 Scallops

Great scallops are up to 15cm (6 in) in size; Bay scallops up to 8cm (3 in); Queen Scallops are small-cockle-sized, and are also known as 'queenies' scallops may be steamed, poached, fried or grilled.

### 3.6.6 Sea-Urchin or Sea Hedgehog

They have spine-covered spherical shells. Only the orange and yellow roe is eaten, either raw out of the shell or removed with a teaspoon and used in soups, scrambled eggs. 10 to 20 urchins provide approximately 200g (7 oz) roe.

### 3.6.7 Winkles

Winkles are small sea snails with a delicious flavour. They may be boiled for three minutes and served with garlic butter or on a dish of assorted shellfish.

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### 3.7 Cephalopods and Fish Offal

#### 3.7.1 Cuttlefish

They are usually dark with attractive pale stripes and the size can be up to 24cm (10 in). They are available all year round. Cuttlefish are prepared like squid and may be stewed or gently grilled.

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#### 3.7.2 Octopus

Octopus is available all year by number and weight. Large species are tough and need to be tenderised; they are then prepared as for squid. Small octopus can be boiled, then cut up for grilling or frying. When stewing, a long cooking time is needed.

#### 3.7.3 Squid

The common squid has mottled skin and white flesh, two tentacles, eight arms and flap-like fins. Usual size is 15-30cm (6-12in). Careful, correct preparation is important if the fish is to be tender. It may be stir-fried, fried, baked, grilled or braised.

### SELF-ASSESSMENT EXERCISE

Visit a fish farm and fish shop in your locality and identify the varieties of fish available.

### 4.0 CONCLUSION

We have different varieties of fish available all year round. The versatile caterer can use them to achieve a wide range of menus.

### 5.0 SUMMARY

This unit highlighted the different kinds of fish available and how to make good selections for a wide variety of dishes.

### 6.0 TUTOR – MARKED ASSIGNMENT

1. Giving five examples each, differentiate between the following:  
(i) oily fish (ii) white flat fish (iii) round fish.
2. Shellfish are of two types, identify them and give five examples of each (include the different types of dishes they are used in).

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### 7.0 REFERENCE/FURTHER READING

Fosket, D., Ceserani, V. & Kinton, R. (2003). *Theory of Catering*, (10th ed.). London: Bookpower.

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### Types of Fish

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#### Oily Fish



Anchovies



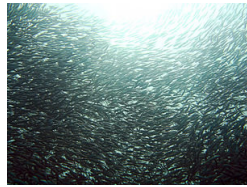
Eel



Atlantic Herring



Mackerel



Pilchards Or Sardines



Sprats



Trout



Tuna

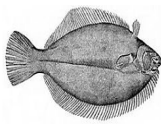


White Bait

#### White Flat Fish



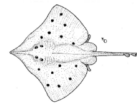
Dab



Flounder



Plaice



Skate



Sole



Lemon Sole



Turbot

**ROUND FISH**



Barracuda



Stripped Bass



Common Bream



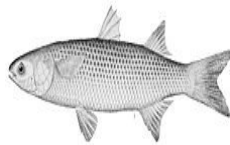
Common Carp



Atlantic Cod



Coley



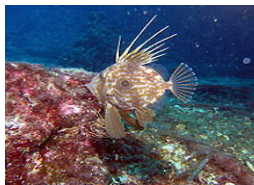
Mullet



Grouper



Haddock



John Dory



Monk Fish



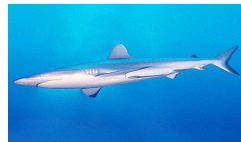
Pike



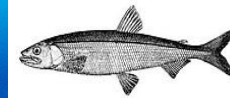
Perch



Pollack



Shark



Smelt



Swordfish

**Shellfish**



Crabs



Crayfish



Lobster



Shrimp

**Molluscs**



Clamp



Cockles



Mussels



Oyster



Scallop



Sea Urchin



Common Periwinkle

Cephalopods [and](#) Fish Offal

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Cuttle Fish



Octopus



Squid

## UNIT 3 VEGETABLES AND FRUITS

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    - 3.2.9 Stems and Shoots
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    - 3.2.11 Mushrooms and Fungi
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- 7.0 Reference/Further Reading

### 1.0 INTRODUCTION

In unit 2, we discussed different types of fish. In this unit, you shall learn about the different types of vegetables and fruits and how they can be used, stored and preserved. Fresh vegetables and fruits are important foods both from an economic and nutritional point of view.



## 2.0 OBJECTIVES

At the end of this unit, you should be able to:

- classify vegetables and fruits
- state the uses of a variety of vegetables and fruits
- discuss the food value of fruits and their uses.

## 3.0 MAIN CONTENT

### 3.1 Types of Vegetables

<b>Roots</b>	<b>Tubers</b>	<b>Bulbs</b>	<b>Leafy</b>	<b>Roots and Stems</b>
Beetroot	Cassava	Celery	Chicory	Thai beans
Carrots	Jerusalem artichokes	Garlic	Chinese leaves	Fallow wax beans
Celeriac	Potatoes	Leeks	Corn salad	Fiddle coke Fern
Ginger	Sweet potatoes	Onions	Fluted leaves	Pumpkin Palm Hearts
Horseradish	Yams	Shallots	Kuka leaves	Water Chestnuts
Parsnips		Spring onions	Lagos Bologi/Water leaf	Samphire
Radish			Lettuce	
Salsify			Mustard and cress	
Scorzonera			Radiccio	
Swedes			Sorrel	
Tiger nut			Spinach	
Turnips			Swiss chard	
			Watercress	
<b>Brassicas</b>	<b>Pods and Seeds</b>	<b>Fruiting</b>	<b>Stems and Shoots</b>	<b>Mushrooms and Fungi</b>
Broccoli	Broad beans	Aubergine/Egg plant	Asparagus	Ceps
Brussels	Butter or lima Beans	Courgette/Zucchini	Cardoon	Chanterelles
Cabbage	Common beans	Cucumber	Celery	Candy Caps
Calabrese	Runner beans	Gourds	Endive	Morels
Cauliflower	Mange-tout	Marrow	Globe artichokes	Mushrooms
Curly kale	Okra	Peppers	Sea kale	
Spring greens	Peas	Pumpkin		
	Peanut	Squash		



Soya beans	Tomatoes
Sweet corn	

### 3.1.1 Food Value

- i. Root vegetables: Useful in the diet because they contain starch or sugar for energy, a small but valuable amount of protein, some mineral salts and vitamins; also useful sources of cellulose and water.
- ii. Green vegetables: No food is stored in the leaves, it is only produced there; therefore little protein or carbohydrate is found in green vegetables; they are rich in mineral salts and vitamins, particularly vitamin C and carotene; the greener the leaf the larger the quantity of vitamin present; chief mineral salts are calcium and iron.

### 3.1.2 Preservation

- i. Canning: Certain vegetables are preserved in tins: artichokes, asparagus, carrots, celery, beans, peas (fins, garden, processed), tomatoes (whole, puree), mushrooms, truffles.
- ii. Dehydration: Onions, carrots, potatoes and cabbage are shredded and quickly dried until they contain only 5% water.
- iii. Drying: The seeds of legumes (peas and beans) have the moisture content reduced to 10%.
- iv. Pickling: Onions and red cabbage are examples of vegetables preserved in spiced vinegar.
- v. Salting: French and runner beans may be sliced and preserved in dry salt.
- vi. Freezing: Many vegetables such as peas, beans, sprouts, spinach and cauliflower are deep frozen.

## 3.2 Types of Vegetables

### 3.2.1 Roots

- i. Beetroot: There are two main types, round and long; used for soups, salads and as a vegetable.
- ii. Carrots: Grown in numerous varieties and sizes; used extensively for soups, sauces, stocks, stews, salads, and as a vegetable.
- iii. Celериac: Large, light-brown, celery-flavoured root, used in soups, salads and as a vegetable. Horseradish - long, light-brown, narrow

root, grated and used for horseradish sauce. Mooli - long, white, thick member of radish family, used for soups, salads or as a vegetable. Parsnips - long, white root tapering to a point; unique nut-like flavour; used in soups, added to casseroles and as a vegetable (roasted, puree, etc.).

- iv. Radishes: Small summer variety, round or oval, served with dips, in salads or as a vegetable in white or cheese sauce.
- v. Salsify: Also called oyster plant because of similarity of taste; long, narrow root used in soups, salads and as a vegetable.
- vi. Scorzonera: Long, narrow root, slightly astringent in flavour; used in soups, salads and as a vegetable.
- vii. Swede: Large root with yellow flesh; generally used as a vegetable, mashed or parboiled and roasted; may be added to stews.
- viii. Turnip: Two main varieties, long and round; used in soups, stews and as a vegetable.

### 3.2.2 Tubers

- i. Artichokes, Jerusalem: Potato-like tuber with a bitter-sweet flavour; used in soups, salads and as a vegetable.
- ii. Purple Congo: It is a blue potato. Truffle de Chine is deep purple potato grown in France.
- iii. Turo: Eddo is of two basic varieties found in tropical areas. A large barrel shaped tuber and a smaller variety which is often called 'eddo of dashheen'. They are all a dark mahogany brown with a shaggy skin, looking like a cross between a beetroot and a swede.
- iv. Potatoes: Many varieties are grown but all potatoes should be sold by name (King Edward, Desiree, and Maris Piper); this is important as the caterer needs to know which varieties are best suited for specific cooking purposes. The various varieties fall into four categories: floury, firm, waxy or salad potatoes; Jersey Royals are specially grown, highly regarded new potatoes.
- v. Sweet potatoes: Long tubers with purple or sand-coloured skins and orange flesh; flavour is sweet and aromatic; used as a vegetable (fried, pureed, creamed, candied) or made into a sweet pudding.
- vi. Yams: Similar to sweet potatoes, usually cylindrical, often knobby in shape; can be used in the same way as sweet potatoes.

### 3.2.3 Bulbs

- i. Fennel: The bulb is the swollen leaf base and has a pronounced flavour. Used raw in salads and cooked.
- ii. Garlic: An onion-like bulb with a papery skin inside of which are

small individually wrapped cloves; used extensively in many forms of cookery; garlic has a pungent distinctive flavour and should be used sparingly.

- iii. Leeks: Summer leeks have long white stems, bright green leaves and a milder flavour than winter leeks; these have a stockier stem and a stronger flavour; used extensively in stocks, soups, sauces, stews, hors d'oeuvre and as a vegetable.
- iv. Onions: There are numerous varieties with different coloured skins and varying strengths; after salt, the onion is probably the most- used flavouring in cookery; can be used in almost every type of food except sweet dishes.
- v. Shallots: They have a similar but more refined flavour than the onion and are therefore more often used in top class cookery.
- vi. Spring onions: - They are slim and tiny like miniature leeks; used in soups, salads and Chinese and Japanese cookery. Ramp looks like a spring onion but is stronger.

### 3.2.4 Leafy

- i. Chicory: A lettuce with coarse, crisp leaves and a sharp, bitter taste in the outside leaves; inner leaves are milder.
- ii. Chinese leaves: Long white, densely packed leaves with a mild flavour resembling celery; makes a good substitute for lettuce and can be boiled, braised or stir-fried as a vegetable.
- iii. Corn salad: Sometimes called lamb's lettuce; small, tender, dark leaves with a tangy nutty taste.
- iv. Culaboo: These are leaves of the tero plant, poisonous if eaten raw, but widely used in Asian and Caribbean cookery.
- v. Lettuce: Many varieties: cabbage, cos, little gem, iceberg, oakleaf, Webbs; used chiefly for salads, or used as a wrapping for other foods, e.g. fish fillets.
- vi. Mustard and cress: Embryonic leaves of mustard and garden cress with a sharp warm flavour; used mainly in, or as a garnish to, sandwiches and salads.
- vii. Nettles brache: Once cooked the sting disappears. Should be picked young, used in soups.
- viii. Radiccio: Round, deep red variety of chicory with white ribs and a distinctive bitter taste.
- ix. Rocket: A type of cress with larger leaves and a peppery taste.
- x. Sorrel: Bright-green sour leaves which can be overpowering if used on their own; best when tender and young; used in salad and soups.
- xi. Spinach: Tender dark green leaves with a mild musky flavour; used for soups, garnishing egg and fish dishes, as a vegetable and raw in salads.
- xii. Swiss chard: Has large, ribbed, slightly curly leaves with a

flavour similar to but milder than spinach; used as for spinach.

- xiii. Watercress: Long stems with round, dark, tender green leaves and a pungent peppery flavour; used for soups, salads, and for garnishing roasts and grills of meat and poultry.
- xiv. Vine leaves: All leaves from grape vines can be eaten when young.

### 3.2.5 Brassicas

- i. Broccoli: There are various types: calabrese white, green, purple-sprouting; delicate vegetable with a gentle flavour used in soups, salads, stir-fry dishes and cooked and served in many ways as a vegetable.
- ii. Broccoflower: A cross between broccoli and cauliflower. Chinese broccoli is a leafy vegetable with slender heads of flowers.
- iii. Brussels sprouts: Small green buds growing on thick stems; can be used for soup but are mainly used as a vegetable, and can be cooked and served in a variety of ways.
- iv. Cabbage: There are three main types: green, white and red; many varieties of green cabbage available at different seasons of the year; early green cabbage is deep green and loosely formed; later in the season they firm up with solid hearts; Savoy is considered the best of the winter green cabbage; white cabbage is used for coleslaw; green and red as a vegetable, boiled, braised or stir-fried.
- v. Chinese mustard greens, deep green mustard flavoured. Pok Choi - Chinese cabbage with many varieties.
- vi. Cauliflower: heads of creamy-white florets with a distinctive flavour; used for soup and cooked and served in various ways as a vegetable.
- vii. Kale and Curly Kale: Thick green leaves. The curly variety is the most popular
- viii. Romanescue: Pretty green or white cross between broccoli and cauliflower.

### 3.2.6 Pods and Seeds

- i. Broad beans: Pale-green, oval-shaped beans contained in a thick fleshy pod; young broad beans can be removed from the pods and cooked in their shells and served as a vegetable in various ways; old broad beans will toughen and when removed from the pods will have to be shelled before being served.
- ii. Butter or Lima beans: Butter beans are white, large, flattish and oval-shaped; lima beans are smaller; both used as a vegetable or salad, stew or casserole ingredient.
- iii. Runner beans: Popular vegetable that must be used when young: bright green colour and a pliable velvety feel; if coarse, wilted,

- or older beans are used they will be stringy and tough.
- iv. **Mange-tout:** Also called snow-peas or sugar peas; flat peapod with immature seeds which after topping, tailing and stringing, may be eaten in their entirety; used as a vegetable, in salads and for stir-fry dishes.
  - v. **Okra:** Curved and pointed seed pods with a flavour similar to aubergines; cooked as a vegetable or in creole-type stews.
  - vi. **Peas:** Garden peas are normal size, petits pois are a dwarf variety; marrow fat peas are dried; popular as a vegetable, peas are also used for soups, salads, stews and stir-fry dishes.
  - vii. **Sweet corn:** Also known as maize or Sudan corn; available 'on the cob' fresh or frozen or in kernels, canned or frozen; a versatile commodity and used as a first course, in soups, salads, casseroles and as a vegetable.

### 3.2.7 Roots and Stems

- i. **Thai beans:** Similar to French beans.
- ii. **Fallow wax beans:** Similar to French beans
- iii. **Fiddlecoke fern:** Also called ostrich fern, 5 cm long, a cross between asparagus and used in oriental dishes.
- iv. **Palm hearts:** Buds of cabbage palm trees.
- v. **Water Chestnuts:** Common name for a number of aquatic herbs and their nut like fruit. The best known type is the Chinese water chestnut, sometimes known as the Chinese sedge.
- vi. **Samphire:** There are two types: marsh samphire grows in estuaries and salt marshes. White rock Samphire sometimes called sea fennel grows on rocky shores. Marsh samphire is also known as glass wort and is sometimes called sea asparagus.

### 3.2.8 Fruiting

- i. **Aubergine:** Firm, elongated, varying in size with smooth shiny skins ranging in colour from purple-red to purple-black; inner flesh is white with tiny soft seeds; almost without flavour, it requires other seasonings, e.g. garlic, lemon juice, herbs, to enhance its taste; may be sliced and fried or baked, steamed or stuffed. Varieties include baby, Japanese, white, striped, Thai.
- ii. **Avocado:** Fruit that is mainly used as a vegetable because of its bland, mild, nutty flavour; two main types: summer variety that is green when unripe and purple-black when ripe with golden-yellow flesh; winter ones are more pear-shaped with smooth green skin and pale green to yellow flesh; eaten as first courses and used in soups, salads, dips and garnishes to other dishes hot and cold.
- iii. **Courgette:** Baby marrow, light to dark green in colour, with a

delicate flavour becoming stronger when cooked with other ingredients, e.g. herbs, garlic, spices; may be boiled, steamed, fried, baked, stuffed and stir-fried.

- iv. Cucumber: A long, smooth-skinned fruiting vegetable, ridged and dark green in colour; used in salads, soups, sandwiches, garnishes and as a vegetable.
- v. Gourds (exotic). Bottle gourds chayotes (chow-chow), Chinese butter lemons.
- vi. Marrow: Long, oval-shaped edible gourds with ridged green skins and a bland flavour; may be cooked as for courgettes.
- vii. Peppers: Available in three colours: green peppers are unripe and they turn yellow to orange and then red (they must remain on the plant to do this); used raw and cooked in salads, vegetable dishes, stuffed and baked, casseroles and stir-fried dishes.
- viii. Pumpkins: Vary in size and can weigh up to 50kg (110 lb); associated with Hallowe'en as a decoration but may be used in soups or pumpkin pie.
- ix. Squash: There are many varieties e.g. acorn, butternut, summer crookneck, delicate Hubbard kumquat, onion. Flesh firm and glowy; can be boiled, baked, steamed or puree'd.
- x. Tomatoes: Along with onions, probably the most-used vegetable in cookery; several varieties including cherry, yellow, globe, large ridged (beef) and plum; used in soups, sauces, stews, salads, sandwiches and as a vegetable.

### 3.2.9 Stems and Shoots

- i. Asparagus: There are three main types: white, with creamy white stems and a mild flavour; French, with violet or bluish tips and a stronger more astringent flavour; and green, with what is considered a delicious aromatic flavour; used on every course of the menu, except the sweet course.
- ii. Bean sprouts: Slender young sprouts of the germinating soya or mung bean, used as a vegetable accompaniment, in stir-fry dishes and salads.
- iii. Cardoon: Long plant with root and fleshy ribbed stalk similar to celery, but leaves are grey-green in colour; used cooked as a vegetable or raw in salads.
- iv. Celery: Long-stemmed bundles of fleshy, ribbed stalks, white to light green in colour; used in soups, stocks, sauces, cooked as a vegetable and raw in salads and dips.
- v. Chicory: Also known as Belgian endive; conical heads of crisp white, faintly bitter leaves used cooked as a vegetable and raw in salads and dips.
- vi. Globe artichokes: Resemble fat pine cones with overlapping

- fleshy, green, inedible leaves, all connected to an edible fleshy base or bottom; used as a first course, hot or cold; as a vegetable, boiled, stuffed, baked, fried or in casseroles.
- vii. Kohlrabi: Stem which swells to turnip shape above the ground; those about the size of a large egg are best for cookery purposes (other than soup or purees); may be cooked as a vegetable, stuffed and baked and added to stews and casseroles.
  - viii. Sea-kale: Delicate white leaves with yellow frills edged with purple; can be boiled or braised or served raw like celery.

### **3.2.10 Plantains**

- i. Ackee: Tropical fruit used in Caribbean style savoury dishes.
- ii. Breadfruit: Fruit from a tropical tree found in the Islands of the South Pacific Ocean.

### **3.2.11 Mushrooms and Fungi**

- i. Ceps: wild mushrooms with short, stout stalks with slightly raised veins and tubes underneath the cap in which the brown spores are produced.
- ii. Chanterelles or Girolles: Wild, funnel-shaped, yellow-capped mushrooms with a slightly ribbed stalk which runs up under the edge of the cap.
- iii. Horns of plenty: Trumpet-shaped, shaggy, almost black wild mushrooms.
- iv. Morels: Delicate, wild mushrooms varying in colour from pale beige to dark brown-black with a flavour that suggests meat. Oyster mushrooms - creamy gills and firm flesh; delicate with shorter storage life than regular mushrooms.
- v. Shitake mushrooms: Solid texture with a strong, slightly meaty flavour.
- vi. Oyster Mushrooms: Field mushrooms found in meadows from late summer to autumn; creamy white cap and stalk and a strong earthy flavour,
- vii. Cultivated mushrooms: Available in three types: button (small, succulent, weak in flavour).
- viii. Cap and open or flat mushrooms.

All mushrooms both wild and cultivated have a great many uses in cookery, in soups, stocks, salads, vegetables, savouries and garnishes.

## **3.3 Fruits**

For culinary purposes fruit can be divided into various groups.

### 3.3.1 Food Value

The nutritive value of fruit depends on its vitamin content, especially vitamin C; it is therefore valuable as a protective food. The cellulose in fruit is useful as roughage.

### 3.3.2 Storage

- i. Hard fruits, such as apples, are left in boxes and kept in a cool store.
- ii. Soft fruits, such as raspberries and strawberries, should be left in their punnets or baskets in a cold room.
- iii. Stone fruits are best placed in trays so that any damaged fruit can be seen and discarded.
- iv. Peaches and citrus fruits are left in their delivery trays or boxes.
- v. Bananas should not be stored in too cold a place because the skins turn black.

### 3.3.3 Quality and Purchasing Points

- Soft fruits deteriorate quickly; especially if not sound. Care must be taken to see that they are not damaged or too ripe when bought.
- Soft fruits should appear fresh; there should be no shrinking, wilting or signs of mould.
- The colour of certain soft fruits is an indication of ripeness (strawberries, dessert gooseberries).
- Hard fruits should not be bruised. Pears should not be over-ripe.

### 3.3.4 Preservation

- i. Drying: Apples, pears, apricots, peaches, bananas and figs are dried; plums when dried are called prunes, and currants, sultanas and raisins are produced by drying grapes.
- ii. Canning: Almost all fruits may be canned; apples are packed in water and known as solid packed apples; other fruits are canned in syrup.
- iii. Bottling: Bottling is used domestically, but very little fruit is commercially preserved in this way; cherries are bottled in maraschino.
- iv. Candied, glace and crystallized fruits are mainly imported from France.
- v. Jam: Some stone fruits and all soft fruits can be used.
- vi. Jelly: Jellies are produced from fruit juice.
- vii. Quick freezing: Strawberries, raspberries, loganberries, apples, blackberries, gooseberries, grapefruit and plums are frozen and they must be kept below 0°C/32°F



- viii. Cold storage: Apples are stored at temperatures between  $1-4^{\circ}\text{C}$  ( $34-39^{\circ}\text{F}$ ), depending on the variety of apple.
- ix. Gas storage: Fruit can be kept in a sealed store room where the atmosphere is controlled; the amount of air is limited, the oxygen content of the air is decreased and the carbon dioxide increased, which controls the respiration rate of the fruit.

### **3.3.5 Uses**

With the exception of certain fruits (lemon, rhubarb, cranberries) fruit can be eaten as a dessert or in its raw state. Some fruits have dessert and cooking varieties, e.g. apples, pears, cherries and gooseberries.

### **3.4 Stone Fruits**

Damsons, plums, greengages, cherries, apricots, peaches and nectarines are used as a dessert; stewed (compote) for jam, pies, puddings and in various sweet dishes and some meat and poultry dishes. Peaches are also used to garnish certain meat dishes. Varieties of Plums include Dessert, Victoria, Gamota, Mayoris, Burbank, Cooking, Angelina, Stanley, Beech Cherry, and Reeves Seedling.

### **3.5 Hard Fruits**

The popular English dessert apple varieties include Beauty of Bath, Discovery, Spartan, Worcester Pearmain, Cox's Orange Pippin, Blenheim Orange, Laxton's Superb and James Grieve; imported apples include Golden Delicious, Braeburn and Gala. The Bramley is the most popular cooking apple. The William, Conference and Doyenne du Comice are among the best known pears. Other varieties of Pear include: Anjou, Beurre-Beth, Beurre-Bosc, Beurve-Hardy, Beurre-Superfin, Forelle, Merton Pride, Rocha, Hosui, Perry, and Tientsin.

Apples and pears are used in many pastry dishes. Apples are also used for garnishing meat dishes and for sauce which is served with roast pork and duck.

### **3.6 Soft Fruits**

Raspberries, strawberries, loganberries and gooseberries are used as a dessert. Gooseberries, black and red currants and blackberries are stewed, used in pies and puddings. They are used for jam and flavourings and in certain sauces for sweet, meat and poultry dishes.

### 3.7 Citrus Fruits

Oranges, lemons, limes and grapefruit are not usually cooked, except for marmalade. Lemons and limes are used for flavouring and garnishing, particularly fish dishes. Oranges are used mainly for flavouring, and in fruit salads, also to garnish certain poultry dishes. Grapefruit are served at breakfast and as a first course generally for luncheon. Mandarins, Clementine's and Satsuma's are eaten as a dessert or used in sweet dishes. Kumquats look and taste like tiny oranges and are eaten with the skin on. Tangelos are a cross between tangerines and grapefruit, and are sometimes called uglis. Pomelos are the largest of the citrus fruits, predominantly round but with a slightly flattened base and pointed top.

### 3.8 Tropical and Other Fruits

- i. Bananas: As well as being used as a dessert, bananas are grilled for a fish garnish, fried as fritters and served as a garnish to poultry (Maryland); they are used in fruit salad and other sweet dishes.
- ii. Cape gooseberries: A sharp, pleasant-flavoured small round fruit sometimes dipped in fondant and served as a type of petit fours.
- iii. Carambola: Also known as star fruit, it has a yellowish-green skin with a waxy sheen. The fruit is long and narrow and has a delicate lemon flavour.
- iv. Cranberries: These hard red berries are used for cranberry sauce, which is served with roast turkey.
- v. Dates: Whole dates are served as a dessert; stoned dates are used in various sweet dishes and petit fours.
- vi. Figs: Fresh figs may be served as a first course or dessert. Dried figs may be used for fig puddings, and other sweet dishes.
- vii. Granadillas: These are like an orange in shape and colour, are light in weight and similar to a passion fruit in flavour.
- viii. Grapes: Black and white grapes are used as a dessert, in fruit salad, as a sweet meal and also as a fish garnish.
- ix. Guavas: Varies in size between that of a walnut to that of an apple; ripe guavas have a sweet pink flesh and they can be eaten with cream or mixed with other fruits.
- x. Kiwi fruit: Has a brown furry skin; the flesh is green with edible black seeds which when thinly sliced gives a pleasant decorative appearance.
- xi. Lychees: A Chinese fruit with a delicate flavour, obtainable tinned in syrup and also fresh.
- xii. Mangoes: Can be as large as a melon or as small as an apple; ripe mangoes have smooth pinky-golden flesh with a pleasing flavour; they may be served in halves sprinkled with lemon juice,

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- sugar, rum or ginger; mangoes can also be used in fruit salads and for sorbets.
- xiii. Mangostines: Are apple-shaped with tough reddish-brown skin which turns purple as the fruit ripens; they have juicy creamy flesh.
  - xiv. Bubacos: Hybrid of the papaya.
  - xv. xv. Custard apples: Heart-shaped or oval light tan or greenish quilted skin. Soursops (prickly custard apples) have dark green skins covered in short spines.
  - xvi. Curuba: Also known as banana passion fruit. Soft yellowish skin.
  - xvii. Dragon fruit: Yellow or pink. Pink are large, about 10cm long and covered with pointed green-tipped scales.
  - xviii. Durians: Large fruit that can weigh up to 4.5 kg. Round or oval, have a woolly olive green outer layer covered with stubby, sharp pikes, which turn yellow as they ripen. Contains creamy white flesh with the texture of rich custard.
  - xix. Feija: Member of the guava family, feija resemble small slightly pear-shaped passion fruit, with a dark green skin which yellows as the fruit ripens.
  - xx. Granadillas: Largest members of the passion fruit family.
  - xxi. Jackfruit: Related to breadfruit. The large irregularly shaped oval fruits. It has a rough spiny skin which ripens from green to brown.
  - xxii. Jujubes: also known as Chinese jujubes, apples or dates. Small greenish brown fruit.
  - xxiii. Kiwanos: Also known as horned melon, horned cucumber or jelly melon. The oval fruits have thick, bright golden-orange skin covered with sharp spikes. The skin conceals a bright green, jelly-like flesh, encasing edible seeds, rather like a passion fruit.
  - xxiv. Loquats: Native to China and South Japan, also known as Japanese medlar. They have a sweet scent and a delicate mango-like flavour.
  - xxv. Maracuyas: Also known as yellow passion fruit. Vibrant green with a thick shiny skin, which turns yellow as it ripens. Inside orange pulp enclosing hard grey seeds.
  - xxvi. Pepinos: Smooth golden skin heavily streaked with purple, sometimes called a tree melon. Native to Peru.
  - xxvii. Pomegranates: Apple-shaped fruit with leathery reddish-brown skin, and a large calyx or crown. Inside is a mass of creamy-white edible seeds, each encased in a translucent sac of deep pink or crimson pulp and held together by segments of bitter, inedible yellow membrane.
  - xxviii. Prickly pears: Also known as 'Indian figs'. Fruit of the cactus. Skin is covered in prickles Greenish-orange skin and orangey-pink flesh with a melon-like texture.
  - xxix. Rambutans: Related to lychees, sometimes known as hairy

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- lychees.
- xxx. Sapodillas: Oval fruit from Central America, tight brown skin, the flesh is sweet, with inedible hard black pips.
  - xxxi. Snake fruit: Large member of the lychees family, the creamy flesh is divided into four segments each encasing a very large inedible brown stone.
  - xxxii. Tamarillos: Known as 'tree tomatoes', large egg-shaped tomatoes with thick, smooth wine-red skins. Each fruit has two lobes containing a multitude of black seeds.
  - xxxiii. Passion fruit: The name comes from the flower of the plant which is meant to represent the Passion of Christ; size and shape of an egg with crinkled purple-brown skin when ripe; flesh and seeds are all edible. It has many uses in pastry work.
  - xxxiv. Paw paw (papaya): Green to golden skin, orangey flesh with a sweet subtle flavour and black seeds; eaten raw sprinkled with lime or lemon juice. Served with crab or prawns and mayonnaise as a first course.
  - xxxv. Persimmon: A round orange-red fruit with a tough skin which can be cut when the fruit is ripe; when under-ripe they have an unpleasant acid-like taste of tannin.
  - xxxvi. Pineapple: Served as a dessert; it is also used in many sweet dishes and as a garnish to certain meat dishes.
  - xxxvii. Rhubarb: Used for pies, puddings, fool and compote.
  - xxxviii. Sharon fruit: A seedless persimmon tasting like a sweet exotic peach.
  - xxxix. Tamarind: Red, egg shaped, flavour a mix of tomato, apricot and coconut, used in sweet dishes and salads.

### 3.9 Melons

There are several types of melon. The most popular are:

- i. Honeydew: Long, oval-shaped melons with dark green skins; the flesh is white with a greenish tinge.
- ii. Charentais: Small and round with a mottled green and yellow skin; the flesh is orange coloured.
- iii. Cantaloup: Large round melons with regular indentations; the rough skin is mottled orange and yellow and the flesh is light orange in colour.
- iv. Ogen: Small round mottled green skins suitable for one portion (depending on size); mainly used as a dessert, hors-d'oeuvre and sweet dishes.

Care must be taken when buying as melons should not be over or under ripe. This can be assessed by carefully pressing the top or bottom of the fruit and smelling the outside skin for sweetness. There should be a

slight degree of softness to the cantaloup and charentais melons. The stalk should be attached, otherwise the melon deteriorates quickly.

### **SELF-ASSESSMENT EXERCISE**

Take a visit to five vegetable and five fruit stalls and

- i. Make an inventory of all the different varieties of vegetables and fruits available.
- ii. Classify them accordingly.
- iii. Differentiate the locally grown (vegetables and fruits) and the imported ones.

### **4.0 CONCLUSION**

Even though improved transportation and storage facilities can help prevent loss of quality of fruits, nuts and vegetables, it is better to make use of them when they are in season because they are at their best at such times.

### **5.0 SUMMARY**

Vegetables and Fruits contribute greatly to the nutritional value of a diet. Vegetarian diets can be successfully planned around these foods.

### **6.0 TUTOR-MARKED ASSIGNMENT**

1. State nine classifications of vegetables and give five examples of each.
2. Suggest two reasons why the purchase of vegetables and fruits is difficult.
3. Suggest four purchasing points for fruits.
4. In a tabular form, identify 10 different fruits and their seasons.

### **7.0 REFERENCE/FURTHER READING**

Fosket, D., Ceserani, V. & Kinton, R. (2003). *Theory of Catering*. (10th ed.). London: Bookpower. [www.nal.usda.gov/fnic/cgi-](http://www.nal.usda.gov/fnic/cgi-)

### Types of Vegetables

Deleted: Of

#### Roots



Beetroot



Carrots



Celeriac



Ginger



Horseradish



Parsnip



Radish



Salsify



Scorzonera



Swede



Tigernut



Turnips

#### Tubers



Cassava



Jerusalem Artichokes



Potatoes



Yam

#### Bulbs



Celery



Garlic



Leek



Onion



Shallots



Spring Onion



Leafy



Chicory



Corn Salad



Kuka



Lettuce



Sorrel



Spinach



Watercress



Waterleaf

Brassicas



Broccoli



Brussels



Cabbage



Calabrese



Cauliflower



Curly Kale



Spring Greens

Pods and Seeds

Deleted: And



Broad Beans



Common Beans



Lima Beans



Mange Tout



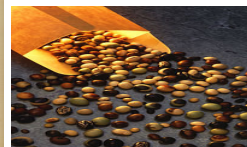
Okra



Peanut



Runner Beans



Soya beans



Sweet Corn

Fruiting



Aubergine



Courgette Zucchini



Cucumber



Gourd (ivy)



Peppers



Pumpkins



Squash



Tomato

Stems and Shoots



Asparagus



Cardoon



Celery



Endive

Deleted: And



Globe Artichokes



Sea Kale



Mushrooms and Fungi

Deleted: And



Ceps



Chanterelles



Horn of Plenty



Morel



Mushroom



Oyster Mushroom



Candy Caps

Roots and Stems

Deleted: And



Fallow Wax Beans



Fiddlecoke Fern



Palm Hearts



Samphire



Samphire



Thai Beans



Water Chestnuts

Types of Fruits

Deleted: Of

Stone Fruits



Damsons



Plum



Greengages



Cherries



Apricots



Peaches



Nectarines

Hard fruits



Beauty of Bath



Discovery



Spartan Apple



Worcester Pearmain



Cox's Orange Pippin



Blenheim Orange



Laxton's superb apple



James Grieve Apple



Golden Delicious Apple



Braeburn Apple



Gala Apple



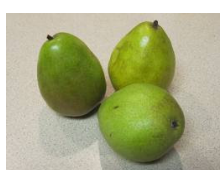
William Pear



Conference Pear



Doyenne du Cornice



Anjou Pear



Beurre-Bosc Pear



Beurre-Hardy Pear



Beurre Superfin



Forelle Pear



Merton Pride Pear



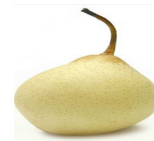
Rocha Pear



Hosui Pear



Perry Pears



Tientsin Pear

Soft Fruits



Raspberry



Strawberry



Loganberries



Gooseberries



Citrus Fruits



Oranges



Lemons



Limes



Grapefruit

Tropical and Other Fruits

Deleted: And



Bananas



Cape gooseberries



Carambola



Cranberries



Dates



Figs



Granadillas



Grapes



Guava



Kiwi Fruit



Lychees



Mango



Mangostines



Custard Apples



Curubas



Durians



Feijoa



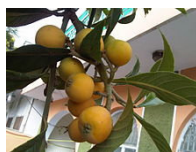
Jackfruit



Jujubes



Kiwanos



Loquats



Maracuyas



Pepinos



Pomegranates



Prickly Pears



Rambutans



Sapodillas



Snake Fruit



Tamarillos



Passion Fruit



Paw Paw (Papaya)



Persimmon



Pineapple



Rhubarb



Tamarind

### Melons



Honeydew



Charentais



Cantaloupe



Watermelon

## **UNIT 4 EGGS AND DAIRY PRODUCTS**

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### **1.0 INTRODUCTION**

In unit 3, we learnt about different types of vegetables and fruits. Eggs and dairy products are the focus of this unit. You will learn about the production, food value, storage and uses of these food commodities.

### **2.0 OBJECTIVES**

At the end of this unit, you should be able to:

- explain the food value and composition of eggs
- analyse the grading of eggs
- classify cheese
- state the types of cream and their fat content.

### 3.0 MAIN CONTENT

#### 3.1 Eggs

The term egg applies not only to those of the hen, but also to the edible eggs of other birds, such as turkeys, geese, ducks, guinea fowl, quails and gulls.

##### 3.1.1 Food Value

Eggs contain most nutrients and are low in calories: two eggs contain 180 calories. Egg protein is complete and easily digestible; therefore it is useful for balancing meals. Eggs may also be used as the main dish; they are a protective food and provide energy and material for growth and repair of the body.

##### 3.1.2 Grades of eggs

Hens' eggs are graded in four sizes:

- \* Small 48 g                      \* Large 68 g
- \* Medium 58 g                   \* Very large 76 g

The size of an egg does not affect the quality but does affect the price. The eggs are tested for quality, then weighed and graded.

Grade A: Naturally clean, fresh eggs, internally perfect with intact shells and an air cell not •-exceeding 6mm (1/4in) in depth,

Grade B: These are eggs which have been down-graded because they have been cleaned or preserved, or because they are internally imperfect, cracked or have an air cell exceeding more than 9mm (3/8 in) in depth.

Grade C: These are eggs which are fit for breaking for manufacturing purposes but cannot be sold in their shells to the public.

##### 3.1.3 Composition of Eggs (Approximate Percentages)

	Whole Egg	White	Yolk
Water	73	87	47
Protein	12	10	15
Fat	11		33
Mineral	1	0.5	2

##### 3.1.4 Uses of Fresh Eggs

Eggs are used extensively in:

- hors-d' oeuvre

- soups
- egg dishes
- fish dishes
- sauce
- meat and poultry
- pasta
- salads
- sweets and pasties
- savouries.

### 3.1.5 Uses of Egg Products

Pasteurised whole egg	hard-boiled eggs
Salted whole egg	pickled eggs
Pasteurised yolk	chopped hard-boiled with mayonnaise
Salted yolk	scrammed egg
Sugared yolk	omelettes
Pasteurised albumen	egg custard blend
Sugared albumen	quiche blend
Egg granules	egg/milk blend

### 3.1.6 Other Types of Eggs

- i. Turkeys' and guinea fowl's eggs may be used in place of hens' egg.
- ii. The eggs of the goose or duck may be used only if they are thoroughly cooked.
- iii. Quails eggs are used in some establishments as a garnish, or as hors d' oeuvre.

## 3.2 Dairy Products

### 3.2.1 Milk

Milk is a white nutritious liquid produced by female mammals for feeding their young. The milk most used in this country is that obtained from cows. Goats' milk and ewes' milk can also be used.

#### Food value

Milk can make a variable contribution to our daily eating pattern and can help to meet our nutritional needs as parts of balanced, varied diets. Milk is one of the nutritionally complete foods available, containing a wide range of nutrients which are essential for the proper functioning of the body. In particular, milk is a good source of protein, calcium and B group vitamins, and whole milk is a good source of vitamin A.

**Storage**

Milk is perishable product, and therefore, must be stored with care. It will keep for four to five days in refrigerated conditions. Milk can be easily contaminated and therefore, stringent precautions are taken to ensure a safe and good quality product for the consumer.

- i. Fresh milk should be kept in the container in which it is delivered.
- ii. Milk must be stored in the refrigerator (four to five days).
- iii. Milk should be kept covered as it easily absorbs smells from other foods such as onions, and fish.
- iv. Fresh milk should be ordered daily.
- v. Tinned milk should be stored in cooled, dried, ventilated place.
- vi. Dried milk is packaged in air tight tins and should be kept in a dry store.
- vii. Sterilised milk will keep for two to three months if unopened, but once opened must be treated in the same way as pasteurized milk.
- viii. UHT (Ultra-Heat-Treated) milk will keep unrefrigerated for several months. Before using always check the date stamp which expires 6 months after processing and make sure to rotate stocks.
- ix. Once opened, it must be refrigerated and will keep four to five days.

**Uses of milk**

Milk is used in:

- soups and sauces
- cooking of fish, vegetable
- making of puddings, cakes, sweet dishes
- hot and cold drinks.

**3.3 Cream**

Cream is the lighter weight portion of milk which still contains all the main constituents of milk but in different proportions. The fat content of cream is higher than that of milk and the water content and other constituents are lower. Cream is separated from the milk and heat treated. Cream is that part of cows’ milk rich in fat which has been separated from the milk.

**Types of Cream and their Fat Content**

Description	minimum butterfat content % by weight
Clotted cream	55
Doubled cream	48
Whipping cream	35



Whipped cream	35
Sterilised cream	23
Single cream	18
Sterilised half cream	12
Half cream	12

Other creams available include:

- extra thick double cream (48%) homogenised and pasteurised – will not whip
- spooning cream or extra thick textured cream (30%)
- frozen cream (single, whipping or double)
- aerosol cream – cream- heat treated by UHT method to give a whipped cream
- soured cream (18%) cream soured by addition of a starter
- crème fraiche – is a similar product with a higher fat content.

**Whipping of cream:** For cream to be whipped it must have fat content of 38 – 42%. If the fat content is too low there will not be enough fat to enclose the air bubbles and form the foam. Conversely if the fat content is too high, the fat globules come into contact too easily, move against each other and form butter granules before the air can be incorporated to form the foam.

**Cream substitutes:** These are in the main based on vegetable fats or oils which are emulsified in water with other permitted substances.

### Storage Points

- i. Fresh cream should be kept in the container in which it is delivered.
- ii. Fresh cream must be stored in the refrigerator until required.
- iii. Cream should be kept covered as it easily absorbs smells from other foods, such as onion and fish.
- iv. Fresh cream should be ordered daily.
- v. Tinned cream should be stored in cool, dry ventilated rooms.
- vi. Frozen cream should only be thawed as required and not refrozen.
- vii. Artificial cream should be kept in the refrigerator.

## 3.4 Yoghurt

Yogurt is a cultured milk product made from cows, ewes', goats or buffaloes' milk. Differences in the taste and texture of the product depend on the type of milk used and the activity of the micro-organisms involved. A bacterial 'starter culture' is added to the milk which causes

the natural sugar 'lactose' to ferment and produce lactic acid. There are two types of yogurt:

- i. Stirred yoghurt, which has a smooth fluid consistency
- ii. Set yoghurt, which is more solid and has a firmer texture.

All yoghurt is 'live' and contains live bacteria which remain dormant when kept at low temperatures, unless it clearly states on the packaging that it has been pasteurised, sterilised or ultra-heat-treated. If stored at room temperature or above, the dormant bacteria become active again and produce more acid. Too high acidity kills the bacteria, impairs the flavour and causes the yoghurt to separate.

Yoghurt is available plain (natural) or in a wide variety of flavours; it often has pieces of fruit added during manufacturing.

### **Food value**

Yoghurt is rich in nutrients containing protein and a range of vitamins and minerals. It is particularly useful as a source of calcium.

## **3.5 Cheese**

Cheese is made from milk protein coagulated by an enzyme e.g. rennet (an animal product). For vegetarian cheese a non-animal enzyme is used. It is made worldwide from cows', ewes' or goats' milk and it takes approximately 5 litres (9 pints) of milk to produce 1/2kg (1 lb) of cheese. There are many hundreds of varieties; most countries manufacture their own special cheeses.

### **Quality**

- i. The skin or rind of cheese should not show spots of mildew, as this is a sign of damp storage.
- ii. Cheese when cut should not give off an over strong smell or any indication of ammonia.
- iii. Hard, semi-hard and blue-vein cheese when cut should not be dry.
- iv. Soft cheese when cut should not appear runny, but should have a delicate creamy consistency.

### **Storage**

All cheese should be kept in a cool, dry, well-ventilated store and whole cheeses should be turned occasionally if being kept for any length of time. Cheese should be kept away from other foods which may be spoilt by the smell.

**Food value**

Cheese is a highly concentrated form of food. Fat, protein, mineral salts and vitamins are all present. Therefore, it is an excellent body-building, energy-producing and protective food.

**Preservation**

Certain cheeses may be further preserved by processing. A hard cheese is usually employed, ground to a fine powder, melted, mixed with pasteurised milk, and poured into moulds then wrapped in lacquered tinfoil, e.g. processed gruyere, Kraft and primula.

**Uses**

Cheese is used for soups, pasta, egg, fish, and vegetable dishes, savouries.

**Some examples of Cheese**

- i. Cheddar: Golden colour with a close texture and a fresh mellow, nutty flavour.
- ii. Cheshire: Orange-red or white, loose crumbly texture and a mild mellow slightly salty flavour; double Gloucester-orange-red, a buttery open texture with a delicate creamy flavour.
- iii. Dunlop: A Scottish equivalent of cheddar, milder and lighter in color and texture.

**SELF-ASSESSMENT EXERCISE**

- i. Pay a visit to a supermarket:
  - (a) Observe the different types of milk available.
  - (b) Take notes of the types of cheese and their labels.
- ii. Visit at least three poultries and take note of how the eggs are graded.

**4.0 CONCLUSION**

Care should be taken in our choice of eggs and dairy products to avoid food poisoning.

**5.0 SUMMARY**

You have been exposed to the different types of eggs and dairy products, their food value, uses and preservation.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. Identify the seven guidelines which apply to the use of raw eggs.
2. Suggest eight different precautions to be taken to ensure a good quality product from milk.
3. Outline seven storage points for cream.
4. Highlight and analyse six types of cheese.

## **7.0 REFERENCE/FURTHER READING**

Fosket, D., Ceserani, V. & Kinton, R. (2003). *Theory of Catering*. (10th ed.). London: Bookpower.

## **UNIT 5 CEREALS, NUTS, FATS AND OILS**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Important Cereals used in Catering
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    - 3.1.2 Uses of Wheat Products
    - 3.1.3 Rye
    - 3.1.4 Oats
    - 3.1.5 Barley
    - 3.1.6 Maize
    - 3.1.7 Rice
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    - 3.2.1 Almonds
    - 3.2.2 Brazil nuts
    - 3.2.3 Chestnuts
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    - 3.2.7 Pecans
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  - 3.5 Oils
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/Further Reading

### **1.0 INTRODUCTION**

In the previous unit, we learnt about the uses and storage of eggs and dairy products. In this unit, we shall study the types of cereals, nuts and oils. Cereals are cultivated grasses, but the term is broadened to include sago, rice, and arrowroot. They constitute a major source of carbohydrates. They provide general health benefits, making them an important part of the diet. Fats and oils are high energy foods that form the foundation of many classic recipes.

## 2.0 OBJECTIVES

At the end of this unit, you should be able to:

- state the types and uses of cereals
- describe the storage of flour
- discuss the factors to consider when choosing oils
- identify varieties of nuts.

## 3.0 MAIN CONTENT

### 3.1 Important Cereals Used in Catering

These are wheat, oats, rye, barley, maize, rice, tapioca, sago, and arrowroot.

A wide variety of cereals is processed into breakfast foods (barley, wheat, rice, bran and corn).

#### 3.1.1 Wheat

##### Source

Wheat is the most common cereal produced in the western world and is grown in most temperate regions. Large quantities are home-grown and a great deal, particularly in the form of strong flour, is imported from Canada.

##### Food value

Cereals are one of the best energy foods. Whole grain cereals provide vitamin B and are therefore protective food.

##### Wheat and flour quality

Flour varies in their composition and broadly speaking is defined by the quality of wheat used in the grist prior to milling and by their rate of extraction. The extraction is the percentage of whole cleaned wheat grain that is present in the flour. A typical mill will produce hundreds of different types of flour using a wide range of home grown and imported wheat.

##### Storage of flour

- The store room must be dry and well ventilated.
- Flour should be removed from the sacks and kept in wheeled bins with lids.
- Flour bins should be of a type that can be easily cleaned.

Flour is probably the most common commodity in daily use. It forms the foundation of bread, pastry and cakes and it is also used in soups, sauces, batters, and other foods.

- White flour contains 72 to 85% of the whole grain (the endosperm only).
- Whole meal flour contains 100% of the whole grain.
- Brown flour contains 85 to 95% of the whole grain.
- High ratio or patent flour contains 40% of the whole grain.
- Self-rising flour is white flour with the addition of baking powder.
- Semolina is granulated hard flour prepared from the central part of the wheat grain.

White or whole meal semolina is available. Semolina is used for cous.

- Burghul (cracked wheat) is used in tabbouleh.

### **3.1.2 Uses of Wheat Products**

- i. Soft flour: Cakes, biscuits, all pastes except puff and flaky, thickening soups and sauces, batters and coating various foods.
- ii. Strong flour: Bread, puff and flaky pastry and pasta.
- iii. Whole meal flour: Whole meal bread and rolls.
- iv. Gnocchi, milk puddings.

### **3.1.3 Rye**

Rye flour is obtained from the cereal rye and it is the only cereal apart from wheat which contains gluten proteins. However, these gluten proteins are not of the same quality or quantity as flour produced from wheat. Dough produced from rye flour has a sticky dense consistency. The baked product has a low volume. Rye flour is available as light, medium and dark rye. Likewise the colour and flavour of rye bread can range from light and mild to dark and strong, depending on the type of rye flour used. Rye flour must be weighed accurately to ensure that: the recipe remains balanced, the correct yield is obtained, a uniform product is obtained and faults are prevented. Store in dry conditions 10-16°C (50-61°F).

### **3.1.4 Oats**

Oats are either rolled into flakes or ground into three grades of oatmeal: coarse, medium and fine.

**Sources**

Oats are one of the hardest cereals, and are grown in large quantities in Scotland and north of England.

**Food value**

Oats have the highest food value of any of the cereals. They contain a good proportion of protein and fat.

**Storage**

Because of the fat content, the keeping quality of oat products needs extra care. They should be kept in containers with tight-fitting lids, and stored in a cool, well-ventilated store room.

**Uses**

- i. Rolled oats: Porridge
- ii. Oatmeal: Porridge, thickening soups, coating foods, cakes and biscuits,.
- iii. Patent rolled oats nowadays largely displace oatmeal and have the advantage of being already heat treated and consequently more quickly and easily cooked.

**3.1.5 Barley**

The whole grain barley is known as pot or scotch barley and requires soaking overnight. Pearl barley has most of the bran of germ removed, and it is then polished. These products are used for making barley water for thickening soups and certain stews. Barley when roasted is changed into malt and such is used extensively in the brewing and distilling of vinegar.

Barley needs the same care in storage as oats. Buckwheat is the seed of the plant bran buckwheat. The grain is usually roasted before cooking, and is also ground into strong savory flour for pancakes and baking.

**3.1.6 Maize**

Maize is also known as corn, sweet corn or corn-on-the-cob, and besides being served as a vegetable it is processed into cornflakes. Maize yields good oil suitable for cooking.

**Corn flour**

This is produced from maize and is the crushed endosperm of the grain which has the fat and protein washed out so that it is practically pure starch.



Corn flour is used for making custard and blancmange powders, because it thickens very easily with a liquid, and sets when cold into a smooth paste that cannot be made from other starches. Custard powder consists of corn flour, colouring and flavouring.

Corn flour is used for thickening soups, sauces, custards and also in the making of certain small and large cakes.

### **3.1.7 Rice**

Rice is the staple food for half the world's population, and is second only to wheat as the world's most important food grain.

There are three types used in the country:

- i. Long grain: A narrow, pointed grain, best suited for savory dishes and plain boiled rice because of its firm structure, which helps to keep the rice grain separate, e.g. Basmati, patna.
- ii. Medium grain: All-purpose rice suitable for sweet and savory dishes e.g. Carolina, arborio.
- iii. Short grain: A short, rounded grain, best suited for milk puddings and sweet dishes because of its soft texture, e.g. Arborio.

#### **Types**

- i. Brown rice: Any rice that has had the outer covering removed but retained its bran and as a result is more nutritious.
- ii. Whole grain rice: Whole and unprocessed rice.
- iii. Wild rice: Seed of an aquatic plant related to the rice family. It has a nutty flavour and a checky texture.
- iv. Ground rice: Used for milk puddings.
- v. Rice flour: Used for thickening certain soups, e.g. cream soups.
- vi. Rice paper: A thin edible paper produced from rice, used in the preparations of macaroons and nougat.
- vii. Precooked instant rice: Par-boiled, ready cooked and boiled in the bag is also available.

#### **Storage**

Rice should be kept in tight-fitting containers in a cool, well-ventilated store.

### **3.2 Nuts**

Nuts are the reproductive kernel (seed) of the plant or tree from which they come. Nuts are perishable and may easily become rancid or infested with insects. Some people have an allergy to nuts which can cause severe illness and possibly death.

**Season**

Dessert nuts are in season during the autumn and winter.

**Food value**

Nuts are highly nutritious because of their protein, fat and mineral salts. They are of considerable importance to vegetarians, who may use nuts in place of meat; they are therefore a food which builds repairs and provides energy. Nuts are difficult to digest.

**Storage**

Dessert nuts, those with the shell on, are kept in a dry, ventilated store. Nuts without shells, whether ground, nibbed, flaked or whole, are kept in airtight containers.

**Quality and purchasing points**

- i. Nuts should be of good size.
- ii. They should be heavy for their size.
- iii. There must be no sign of mildew.

**Use**

Nuts are used extensively in pastry and confectionery work and vegetarian cookery, and also for decorating and flavouring. They are used whole, or halves, and almonds are used ground, nibbed and flaked.

**3.2.1 Almonds**

Salted almonds are served at cocktail parties and bars. Ground, flaked or nibbed almonds are used in sweet dishes and for decorating cakes. Marzipan (almond paste) has many uses in pastry work.

**3.2.2 Brazil Nuts**

Brazil nuts are served with fresh fruit as dessert and are also used in confectionery.

**3.2.3 Chestnuts**

Chestnuts are used as stuffing for turkeys; chestnut flour is used for soup, and as a garnish for ice cream. Chestnut puree is used in pastries and gateaux.

**3.2.4 Coconut**

Coconut is used in desiccated form for curry preparations, and in many types of cakes and confectionery.

### 3.2.5 Hazel Nuts

These nuts are used as a dessert and for praline.

### 3.2.6 Macadamia Nuts

These expensive nuts have a rich, delicate, sweetish flavour. They can be used in pasta dishes, savoury sauces for meat, game and poultry and in ice-cream, sorbets and puddings.

### 3.2.7 Pecans

Pecan nuts are used salted for dessert, various sweets and ice-cream.

### 3.2.8 Peanuts and Cashew Nuts

These are salted and used as bar snacks. They are also used in some stir fry dishes.

### 3.2.9 Pistachio Nuts

These small green nuts, grown mainly in France and Italy, are used for decorating galantines, small and large cakes and [petit](#) fours. They are also used in ice-cream.

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### 3.2.10 Walnuts

Walnuts, imported mainly from France and Italy, are used as a dessert, in salads and for decorating cakes and sweet dishes. They are also pickled, while green and unripe.

## 3.3 Fats

### 3.3.1 Lard

Lard is the rendered fat from pigs. It has almost 100% fat content; it may be used in hot water paste and with margarine to make short paste. It can also be used for deep or shallow frying.

### 3.3.2 Suet

This is the hard solid fat deposits in the kidney region of animals. Beef suet is the best and it is the best and it is used for suet paste and mincemeat.

### 3.3.3 Dripping

This is obtained from clarified animal fats (usually beef) and it is used for deep or shallow frying.

## 3.4 Margarine

Margarine is produced from milk and a blend of vegetable oils emulsified with lecithin, flavouring, salt, colouring and vitamins A and D.

### Food value

Margarine is an energy and protective food. With the exception of palm oil, the oils used in the manufacture of margarine do not contain vitamins A and D; these are added during production. It is not inferior to butter from the nutritional point of view.

### Quality

There are several grades of margarine: block (hard or semi hard); soft (butter substitute); semi-hard form for making pastry; and cake margarine which creams easily and absorbs egg. Some margarine are blended with butter. Taste is the best guide to quality.

### Use

Margarine can be used in place of butter, the difference being that the smell is not so pleasant, and nut brown (beurre noisette) or black butter (beurre noir) cannot satisfactorily be produced from margarine. The flavour of margarine when used in the kitchen is inferior to butter – it is therefore not so suitable for finishing sauces and dishes.

## 3.5 Oils

### Choice of Oil

The choice of oil as a food ingredient or for cooking will usually involve a compromise. The factors that will need to be taken into account may include:

- i. Price: Variations will occur according to supply and demand.
- ii. Intended use: Some oils are versatile others have limited use.
- iii. Durability: Both in use and in storage.
- iv. Nutritional and health concerns.

**Flash point:** For frying purposes oil must, when heated, reach a high temperature without smoking. Food being fried will absorb the oil if the oil smokes at a low temperature. As oils are combustibles they can catch fire (known as flash point). In some cases the margin between smoking and flash point may be narrow.

**Food value:** As oil has a very high fat content it is useful as an energy food.

### Storage

Oil should be kept in a cool place.

If refrigerated, some oils congeal but will return to a fluid state when removed from the refrigerator.

Oils keep for a fairly long time but may go rancid if not kept cool.

### Types of oil

Peanut (groundnut)	cotton seed	palm kernel
Rapeseed	olive	coconut
Soya bean	sunflower	specialty e.g. almond
Palm	corn	grape seed, hazelnut, and walnut.

Herbal oils are available or can be made by adding chopped fresh herbs (e.g. tarragon, thyme, basil etc) to olive oil and keeping refrigerated in screw top jars for about three weeks, then strained and rebottled. If fresh green herbs are used, blanching and refreshing them will enhance the colour of the oil.

### Uses

- They are used for mayonnaise, vinaigrette and hors d'oeuvre dishes.
- Pasta, certain dough and breads use olive oil.
- Oils are also used for deep frying, lubrication of utensils and slabs.

### SELF-ASSESSMENT EXERCISE

- Differentiate between lard, suet and dripping.
- Visit a supermarket and note the different varieties of flour available and where they are produced.

## 4.0 CONCLUSION

When cereals, nuts and oils are carefully chosen and used in cooking, they make excellent dishes.

## 5.0 SUMMARY

You have learnt the different types of fats, oils, nuts and cereals that are usually used in cookery. It is important to make a periodic market survey so as to avail yourself of the ones that are readily available.

## 6.0 TUTOR-MARKED ASSIGNMENT

1. Mention four points to consider when choosing oils.
2. Analyse the different types of wheat flour and their uses.
3. State the uses of rye, rice and arrowroot.

## 7.0 REFERENCE/FURTHER READING

Fosket, D., Ceserani, V. & Kinton, R. (2003). *Theory of Catering*, (10th ed.). London: Book Power.

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## MODULE 3

Unit 1	Food Purchasing
Unit 2	Organisation of Control
Unit 3	Catering for Functions/Events
Unit 4	Meat Cookery
Unit 5	Cook-Chill, Cook-Freeze

## UNIT 1 FOOD PURCHASING

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### 1.0 INTRODUCTION

In the last unit, we discussed cereals, nuts and oils. In this unit, we shall study the rudiments of food purchasing. Once a menu is planned, a number of activities must occur to bring it into reality. One of the first and most important stages is to purchase and receive the materials needed to produce the menu items. Skilful purchasing with good receiving can do much to maximise the results of a good menu.

Purchasing is a very complex activity, therefore in order to make a success of it, well-defined procedures must be followed. In this unit, we shall learn how to achieve this.

## **2.0 OBJECTIVES**

At the end of this unit, you should be able to:

- identify the principles of purchasing
- discuss the responsibilities of a buyer
- suggest at least 20 buying tips
- distinguish between the 3 main methods for buying
- describe standard purchasing specifications with practical examples.

## **3.0 MAIN CONTENT**

### **3.1 Steps to Efficient Purchasing**

There are six important steps to remember:

- know the market
- design the purchase procedures
- determine purchasing needs
- receive and check the goods
- establish and use specifications
- evaluate the purchasing task.

#### **3.1.1 Knowing the Market**

Since markets vary considerably, to do a good job of purchasing, a buyer must know the characteristics of each market.

A market is a place in which ownership of commodity changes from one person to another. This could occur using the telephone, on a street corner, in a retail or wholesale establishment or at an auction.

It is important that a food and beverage purchaser has knowledge of the items to be purchased, such as:

- where they are grown
- seasons of production
- approximate costs
- conditions of supply and demand
- laws and regulations governing the market and the products
- marketing agents and their services
- processing
- storage requirements



- commodity and product, class and grade.

### **3.1.2 The Buyer**

This is the key person who makes decisions regarding quality, amounts, price, what will satisfy the customers but also make a profit. The wisdom of the buyer's decisions will be reflected in the success or failure of the operation. The buyer must not only be knowledgeable about the products, but must have the necessary skills required in dealing with sales people, suppliers and other market agents. The buyer must be prepared for hard and often aggressive negotiations.

The responsibility for buying varies from company to company according to the size and management policy. Buying may be the responsibility of the chef, manager, storekeeper, buyer or buying department. A buyer must have knowledge of the internal organisation of the company, especially the operational needs and to be able to obtain the product needs at a competitive price. Buyers must also acquaint themselves with the procedures of production and how these items are going to be used in the production operations, in order that the right item is purchased. A buyer must also be able to make good use of market conditions. For example, if there is a glut of fresh salmon at low cost, has the organisation the facility to make use of the extra salmon purchases? Are there sufficient freezer space? Can the chef make use of salmon, by creating a demand on the menu?

## **3.2 Buying Methods**

These depend on the type of market and the kind of operation. Purchasing procedures are usually formal or informal. Both have advantages and disadvantages. Informal methods are suitable for casual buying, where the amount involved is not large and speed and simplicity are desirable, formal contracts are best for large contracts for commodities purchased over a long period of time.

### **Informal buying**

This usually involves oral negotiations, talking directly to sales people, face to face or using the telephone. Informal methods vary according to market conditions.

### **Formal buying**

Known as competitive buying, formal buying involves giving suppliers written specifications and quantity needs. Negotiations are normally written.

### Selecting suppliers

Selecting suppliers is important in the purchasing process. Firstly consider how a supplier will be able to meet the needs of your operation. Consider; Price; Delivery; Quality/standards. Information on suppliers can be obtained from other purchasers. Visits to suppliers' establishments are to be encouraged. When interviewing prospective suppliers, you need to question how reliable a supplier will be under competition and how stable under varying market conditions.

### 3.3 Principles of Purchasing

A menu dictates an operation's needs. Therefore, the buyer searches for the market to source for the ingredients. After the right market is located, the various products available that may meet the needs are then investigated. The right product must be obtained to meet the need and give the right quality desired by the establishment. Other factors that might affect production needs include:

- type and image of the establishment
- style of operation and system of service
- occasion for which the item is needed
- amount of storage available (dry, refrigerated or frozen)
- finance available and supply policies of the organisation
- availability, seasonality, price trends and supply.

The skill of the employees, catering assistants, chefs, must also be taken into account as well as condition and the processing method: the ability of the product to produce the item or dish required; the storage life of the product.

### 3.4 Buying Tips

The following is a list of suggestions to assist the buyer:

- i. Acquire, and keep up-to-date, a sound knowledge of all commodities, both fresh and convenience, to be purchased.
  - ii. Be aware of the different types and qualities of each commodity that is available.
- iii. When buying fresh commodities, be aware of part-prepared and ready-prepared items available on the market.
- iv. Keep a sharp eye on price variations. Buy at the best price to ensure the required quality and also an economic yield. The cheapest item may prove to be the most expensive if waste is excessive. When possible, order "by number and weight
 

20kg plaice could be	80 x 250g (8 oz) plaice
	40 x 500g (1lb) plaice
	20 x 1 kg (2.2 lb) plaice

It could also be 20kg total weight of various sizes and this makes efficient portion control, difficult. Some suppliers (butchers, fishmongers) may offer portion control service by selling the required number of a given weight of certain cuts:

- 100 x 150g (6oz) sirloin steaks
- 25 kg (50 lb) prepared stewing beef
- 200 x 100 g (4oz) pieces of turbot fillet
- 500 x 100g (4oz) plaice fillets

- v. Organise an efficient system of ordering with copies of all orders kept for cross checking, whether orders are given in writing, verbally or by telephone.
- vi. Compare purchasing by retail, wholesale and contract procedures to ensure the best method is selected for your own particular organisation.
- vii. Explore all possible suppliers: local or markets, town or country, small or large.
- viii. Keep the number of suppliers to a minimum. At the same time have at least two suppliers for every group of commodities, when possible. The principle of having competition for the caterer's business is sound.
- ix. Issue all orders to suppliers fairly, allowing sufficient time for the order to be implemented efficiently.
- x. Request price lists as frequently as possible and compare prices continually to make sure that you buy at a good market price.
- xi. Buy perishable goods when they are in full season as this gives the best value at the cheapest price. To help with the purchasing of the correct quantities, it is useful to compile a purchasing chart for 100 covers from which items can be divided or multiplied according to requirement. Indication of quality standards can also be inserted in a chart of this kind.
- xii. Deliveries must all be checked against the orders given for quantity, quality and price. If any goods delivered are below an acceptable standard, they must be returned either for replacement or credit.
- xiii. Containers can account for large sums of money. Ensure that all the containers are stored, returned to the suppliers and the proper credit given.
- xiv. Keep up-to-date trade catalogues, visit trade exhibitions, survey new equipment and continually review the space, services and systems in use in order to explore possible avenues of increased efficiency.
- xv. Organise a testing panel occasionally in order to keep up to date with new commodities new products coming on to the market.
- xvi. Consider how computer application can assist the operation.

- xvii. Study weekly fresh food price lists.

### 3.5 Methods of Purchasing

There are three main methods for buying, each depending on the size and volume of the business.

- i. **The Primary Market:** raw materials may be purchased at the source of supply, the grower, producer or manufacturer, or from central markets. Some establishments or large organizations will have a buyer who will buy directly from the primary markets. Also, a number of smaller establishments may adopt this method for some of their needs (the chef patron may buy his fish, meat and vegetables directly from the market).
- ii. **The Secondary Market:** goods are bought wholesale from a distributor or middle man; the catering establishment will pay wholesale prices and obtain possible discounts.
- iii. **The Tertiary Market:** the retail or cash and carry warehouse is a method suitable for smaller companies. A current pass obtained from the warehouse is required in order to gain access. This method also requires the user to have his or her own transport. Some cash and carry organizations require a VAT number before they will issue an authorized card. It is important to remember that there are added costs:
  - running the vehicle and petrol used;
  - the person's time for going to the warehouse.

### SELF-ASSESSMENT EXERCISE

- i. Plan a lunch for four adults.
- ii. State all the food items that you need to prepare the lunch.
- iii. State the quantities of each item.
- iv. Identify the methods (formal and informal) for purchasing the items.
- v. Draw up a standard purchasing specification for the purchase of fresh pepper.

### 4.0 CONCLUSION

Skillful purchasing with good receiving can help to maximise the results of a good menu, it is imperative that you have a good knowledge of the items to be purchased.

## 5.0 SUMMARY

You have learnt the different purchasing methods and how to develop good purchasing skills so as to get the best out of the foodstuffs available.

## 6.0 TUTOR-MARKED ASSIGNMENT

1. Identify seven things that a food and beverage purchaser needs to have knowledge of before making a purchase.
2. Describe the principles of purchasing.
3. Mention and explain 20 buying tips.
4. Discuss how equipment can help in maintaining control of the size of portions.

## 7.0 REFERENCES/FURTHER READING

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## UNIT 2 ORGANISATION OF CONTROL

### CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Efficient Control
    - 3.1.1 Control of Resources
    - 3.1.2 Means of Control
    - 3.1.3 Portion Control
  - 3.2 Portion Control Equipment
    - 3.2.1 Portion Amounts
  - 3.3 Cost Control
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  - 3.5 Food cost and Operational Control
    - 3.5.1 Food Costing
- 4.0 Conclusion
- 5.0 Summary
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### 1.0 INTRODUCTION

We discussed the rudiments of food purchase in the last unit.

In this unit, we shall be examining the different areas and types of control in the food and beverage operation. We shall learn about the principles and procedures that assist effective food and beverage control system.

### 2.0 OBJECTIVES

At the end of this unit, you should be able to:

- state five advantages of an efficient costing system
- calculate the total cost of a meal
- analyse factors that affect a control system
- identify the equipment used in portion control.

### 3.0 MAIN CONTENT

#### 3.1 Effective Control

The role of managers whether they are called food and beverage managers or assistant food manager, executive chefs, chef de cuisine, *sous chef*, head chef, *chef de parti* or whatever; is to organise:

- themselves
- other people
- their time
- physical resources
- purchasing of food
- storage of food
- preparation of food
- production of food
- presentation of food
- hygiene
- safety etc.

### 3.1.1 Control of Resources

The effective and efficient management of resources requires knowledge and if possible, experience. In addition, it is necessary to keep up-to-date. This may require attending courses on management, computing, hygiene, legislation and so on. Membership of appropriate organizations such as Hotel Catering International Management Association (HCIMA), or former student associations can also be valuable, so also is attending exhibitions and trade fairs.

How the controlling of resources is administered will depend partly on the system of the organisation but also on the way the person in control operates. Apart from knowledge and experience, respect from those for whom one is responsible is earned, not given by the way staff is handled on the job. Having earned the respect and co-operation of staff, a system of controls and checks needs to be operated which is smooth running and not disruptive. Training and delegation may be required to ensure effective control and periodically it is essential to evaluate the system to see that the recording and monitoring are being effective.

The purpose of control is to ensure that:

- supplies of what is required are available
- the supplies are of the right quality and quantity
- supplies are available on time
- there is minimum of wastage
- there is no overstocking
- there is no pilfering
- legal requirements are complied with.

### 3.1.2 Means of Control

Checks need to occur spontaneously, without previous warning of the check being made, at regular intervals which may be daily or weekly.

These checks may involve one item, several items or all items. Records need to correspond with the physical items, for example if records indicate 40 packets of sugar at 1 kilo, then those 40 x 1 kilo packets need to be seen. It is necessary to know to whom any discrepancies should be reported and what action should be taken. Therefore the policy of the establishment should be clear to all members of staff.

A system of authorisation regarding who may purchase, and who may issue goods to who, with the necessary documents and records needs to be established and inspected to see that it works satisfactorily.

### 3.1.3 Portion Control

Portion control means controlling the size or quantity of food to be served to each customer. The amount of food allowed depends on the three following considerations:

- i. **The type of customer or establishment:** There will obviously be a difference in the size of portions served, such as to those working in heavy industry or to female clerical workers. In a restaurant offering a three-course table d'hôte menu for ₦x including salmon, the size of the portion would naturally be smaller than in a luxury restaurant charging ₦x for the salmon on an *a la carte* menu.
- ii. **The quality of the food:** Better quality food usually yields a greater number of portions than poor quality food.
- iii. **The buying price of the food:** This should correspond to the quality of the food if the person responsible for buying has bought wisely. A good buyer will ensure that the price paid for any item of food is equivalent to the quality in other words a good price should mean good quality, which should mean a good yield, and so help to establish a sound portion control. If, on the other hand, an inefficient buyer has paid a high price for inferior quality food then it will be difficult to get a fair number of portions, the selling price necessary to make the required profit will be too high and customer satisfaction can be affected.

Portion control should be closely linked with the buying of the food; without a good knowledge of the food bought it is difficult to state fairly how many portions should be obtained from it. To evolve a sound system of portion control each establishment (or type of establishment) needs individual consideration. A golden rule should be 'a fair portion for a fair price'.





- Mackerel and whiting 250-360g fish
- Sole for main dish 300-360r fish
- Sole for filleting 500-750g best size
- Whitebait 8-10 portions to the kg
- Salmon ~~guttled~~, but including head and bone 4-6 portions to the kg
- Crab or lobster 250-160 g per portion  
(A 500g lobster yields about 150g meat; a 1 kg lobster yields about 360 g meat).

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**Meats**

**Beef**

- Roast boneless 6-8 portions per kg
- Boiled or braised 6-8 portions per kg
- Stews, puddings and pies 8-10 portions per kg
- Steaks
  - Rump 120-250g per portion
  - Sirloin 120-250g per portion
  - Tournedos 90-120g per portion
  - Fillet 120-180g per portion

**Poultry**

- Poussin 1 portion 360g (1 bird)
- Ducks and chicken 2 portions 750g (1 bird)
- Geese and boiling fowl 360 g per portion
- Turkey 260g per portion
- 360 g per portion 250g per portion

**Vegetables**

- New potatoes 8 portions to the kg
- Old potatoes 4-6 portions to the kg
- Cabbage 6-8 portions to the kg
- Turnips 6-8 portions to the kg
- Parsnips 6-8 portions to the kg
- Swedes 6-8 portions to the kg
- Brussels sprouts 6-8 portions to the kg
- Tomatoes 6-8 portions to the kg
- French beans 6-8 portions to the kg
- Cauliflower 6-8 portions to the kg
- Spinach 4 portions to the kg
- Peas 4-6 portions, to the kg
- Runner beans 6 portions to the kg

### 3.3 Cost Control

It is important to know the exact cost of each process and every item produced, so a system of cost analysis and cost information is essential.

The advantages of an efficient costing system are:

- i. It discloses the net profit made by each section of the organisation and shows the cost of each meal produced.
- ii. It will reveal possible sources of economy and can result in a more effective use of stores, labour, materials, etc.
- iii. Costing provides information necessary for the formation of a sound price policy.
- iv. Cost records provide and facilitate the speedy quotations for all special functions, such as special parties, wedding receptions, etc.
- v. It enables the caterer to keep to a budget.

No one costing system will automatically suit every catering business, but the following guidelines may be helpful.

- i. The co-operation of all departments is essential.
- ii. The costing system should be adapted to the business and not vice versa. If the accepted procedure in an establishment is altered to fit a costing system then there is danger of causing resentment among the Staff and as a result losing their co-operation.
- iii. Clear instructions in writing must be given to staff that are required to keep records. The system must be made as simple as possible so that the amount of clerical labour required is kept to a minimum. An efficient mechanical calculator or computer should be provided to save time and labour.

To calculate the total cost of any one item or meal provided, it is necessary to analyse the total expenditure under several headings. Basically the total cost of each item consists of three main elements.

- i. **Food or Materials Costs:** Known as variable costs because the level will vary according to the volume of business; in an operation that uses part-time or extra staff for special occasions, the money paid to these staff also comes under variable costs, by comparison, salaries and wages paid regularly to permanent staff are fixed cost.
- ii. **All cost of labour and overheads:** Regular charges which come under the heading of fixed costs; labour costs in the majority of

operations fall into two categories: direct labour cost, which is salaries and wages paid to staff such as chefs, waiters, barstaff, housekeepers, chambermaids and where the cost can be allocated to income from food, drink and accommodation sales; indirect labour cost, which would include salaries and wages paid, for example, to managers, office staff and maintenance men who work for all departments (so their labour cost should be charged to all departments). Overheads consist of rent, rates, heating, lighting and equipment.

- iii. **Cleaning materials:** An important group of essential items that is often overlooked when costing are cleaning materials. There are over 60 different items that come under this heading, and approximately 24 of these may be required for an average catering establishment. These may include: brooms, brushes, buckets, cloths, drain rods, dusters, mops, sponges, squeegees, scrubbing/polishing machines, suction/vacuum cleaners, wet and wet/dry suction cleaners, scouring pads, detergents, disinfectants, dustbin powder, washing-up liquids, fly sprays, sacks, scourers, steel wool, soap, soda, etc.

It is important to understand the cost of these materials and to ensure that allowances are made for them under the heading of overheads.

### 3.4 Profit

It is usual to express each element of cost as a percentage of the selling price. This enables the caterer to control his profits.

Gross profit or kitchen profit is the difference between the cost of the food and the net selling price of the food. Net profit is the difference between the selling price of the food (sales) and total cost (cost of food, labour and overheads).

Sales - Food cost = gross profit (kitchen profit)

Sales - total cost = net profit

Food cost + gross profit = sales

Example	Food sales for 1 week	=	₦25,000
	Food cost for 1 week	=	₦12,000
	Labour and overheads for 1 week	=	₦9,000
	Total costs for 1 week	=	₦21,000
	Gross profit (kitchen profit)	=	₦13,000
	Net profit	=	₦4,000

Food sales - food cost      ₦25,000 - ₦12,000 = ₦13,000 (gross profit)

Food sales - net profit      ₦25,000 - ₦4,000 = ₦21,000 (total costs)

Food cost + gross profit    ₦12,000 + ₦13,000 = ₦25,000 (food sales)

Profit is always expressed as a percentage of the selling price.

∴ the percentage profit for the week is:

$$\frac{\text{Net profit}}{\text{Sales}} \times 100 = \frac{\text{N}4000 \times 100}{25,000}$$

A breakdown shows:

		Percentage
Food cost	N12,000	48
Labour	N6,000	24
Overheads	<u>N3,000</u>	12
	N21,000	
Net profit	<u>N4,000</u>	16
Sales	<u>N25,000</u>	

If the restaurant served 1000 meals then the average spent by each customer would be:

$$\frac{\text{Total sales N}25,000}{\text{No. of customers 1000}} = \text{N}25.00$$

As the percentage composition of sales for a month is now known, the average price of a meal for that period can be further analysed:

$$\begin{aligned} \text{Average price of a meal} &= \text{N}25.00 = 100\% \\ 25\text{K} &= 1\% \end{aligned}$$

which means that the customer's contribution towards:

Food cost	= 25 x 48	=	N12.00.
Labour	= 25 x 24	=	N6.00
Overheads	= 25 x 12	=	N3.00
Net profit	= 25 x 16	=	N4.00
Average price of meal			N25.00

A rule that can be applied to calculate the food cost price of a dish is: let the cost price of the dish equal 40% and fix the selling price at 100%.

$$\text{Cost of dish} - 400\text{K} = 40\%$$

$$\frac{400 \times 100}{40}$$

$$\therefore \text{Selling price } 40 = \text{N}10.00$$

Selling the dish at N10, making 60% gross profit above the cost price, would be known as 40% food cost. For example:

Sirloin steak (250g (8oz))

250g (8oz) entrecote steak at N10.00 a kg = N2.50

To fix the selling price at 40% food cost =  $\frac{2.50 \times 100}{40} = \text{N}6.25$

### 3.5 Food Cost and Operational Control

As food is expensive, efficient stock control levels are essential to help the profitability of the business. The main difficulties of controlling food are as follows:

- i. Food prices fluctuate frequently because of inflation and falls in the demand and supply, through poor harvests, bad weather conditions, etc.
- ii. Transport costs rise due to wage demands and cost of petrol.
- iii. Fuel costs rise, which affects food companies' and producers' costs.
- iv. Any food subsidies imposed by governments are removed.
- v. Changes occur in the amount demanded by the customer; increased advertising increases demand; changes, in taste and fashion influence demand from one product to another.
- vi. Media focus on certain products which are labeled healthy or unhealthy will affect demand; for example butter being high in saturated fats, sunflower margarine being high in poly-unsaturated.

Each establishment should devise its own control system to suit the needs of that establishment. Factors which affect a control system are:

- regular changes in the menu
- menus with a large number of dishes
- dishes with a large number of ingredients
- problems in assessing customer demand
- difficulties in not adhering to or operating standardized recipes
- raw materials purchased incorrectly.

Factors assisting a control system include:

- menu remains constant, (McDonald's, Harvester, Pizza Hut, Burger King)
- standardised recipes and purchasing specifications used
- menu has a limited number of dishes.

Stocktaking is therefore easier and costing more accurate. In order to carry out a control system, food stocks must be secured, refrigerators and deep freezes should be kept locked, portion control must be accurate. A book-keeping system must be developed to monitor the daily operation.

## SELF-ASSESSMENT EXERCISE

Plan a three-course meal for two persons and calculate the total cost.

### 4.0 CONCLUSION

Effective control of oneself is a key to achieving success in the control of all aspects of catering.

### 5.0 SUMMARY

Adherence to the principles and procedures involved in an effective food and beverage control system will help you run an efficient business and enable you give the customer good value for money.

### 6.0 TUTOR-MARKED ASSIGNMENT

1. In seven points, discuss the purpose of control.
2. Outline six portion control equipment.
3. Analyse how to control portions of poultry.

### 7.0 REFERENCE/FURTHER READING

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## **UNIT 3     CATERING FOR FUNCTIONS**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Types of Functions
  - 3.2 Functions/Events in Commercial Catering
  - 3.3 Functions/Events in Non-Commercial Catering
  - 3.4 Functions/Events in Semi-Commercial Catering
  - 3.5 Functions/Events Organisation Administration
  - 3.6 Formal Seating Arrangements
- 4.0 Conclusion
- 5.0 Summary
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### **1.0 INTRODUCTION**

In unit 2, we discussed how to organise control in the food industry, in this unit, we shall examine what functional catering is and how it is carried out. Catering for functions occurs at many different levels in the industry.

Function or event catering is the term used for the service of special events for specific group of people at pre-set times with the food and beverage being pre-determined.

It covers dinners and luncheons, parties, buffets, cocktail parties, conferences, dinner dances and receptions.

### **2.0 OBJECTIVES**

At the end of this, unit you should be able to:

- give different categories of functions
- discuss how to promote the sale of functions/events
- explain how to organise functions/ events.



### **3.0 MAIN CONTENT**

#### **3.1 Types of Functions/Events**

There are two main types of functions:

- i. Formal meals (sometimes called banquets) e.g. luncheons, dinners, wedding breakfast etc.
- ii. Buffet Receptions e.g. wedding, receptions, cocktail parties, buffets, dances, anniversary, parties, conferences etc.

Functions can further be broken down as follows:

##### **Social**

- iii. Dinners
- iv. Luncheons
- v. Reception
- vi. Cocktail parties
- vii. Charity dinners

##### **Conferences**

- viii. Political
- ix. Trade union
- x. Academic
- xi. National and International
- xii. Training seminars

##### **Public Relations**

- xiii. Exhibition
- xiv. Fashion parade
- xv. Press party to launch a new product
- xvi. Seminars

Function Catering is not a prerogative of the commercial sector of the industry. Institutional, industrial and welfare caterers also cater for functions ranging from workers' end of year parties to inaugural banquet for Vice Chancellors, directors' luncheon parties and catering for doctors' dances.

Function catering could further be divided into three: Commercial catering, non-commercial catering and semi-commercial catering.

### **3.2 Functions/Events in Commercial Catering**

The major difference between the commercial and non-commercial sectors of the industry is that in commercial catering, functions are undertaken for profit. Where functions are the only form of catering undertaken, or where the banqueting operation is large enough to constitute a semi-autonomous cost department, then not only is the profit on functions both individually and collectively, quite vital to the business, but also this will be a true net profit, with all overheads being cost against income.

Where functions are a useful means of turnover, but are not vital to the business then indirect overheads are not always fully cost, and the profit may not be a true net profit.

Where functions are rare events, overheads are frequently ignored altogether.

#### **Categories of Commercial Functions**

Styles and standards of function catering in the commercial sector vary widely:

The internationally famous five star establishments: These types epitomise elegance and luxury, where the service is impeccable, the food of highest standard and the banquet manager has all the resources of skill and equipment needed at his disposal. The degree of excellence is costly to provide and maintain and prices are inevitably high.

The middle-of-the-road establishments: These include hotels, restaurants, public houses and function rooms which cater for the majority of the functions. The ambience is pleasant and cheerful, the food and service is of high standard. The costs and prices are proportionately less than that at the very top level.

There are also establishments which have a dreary room and poor equipment and which serve dull food to those customers who either aspire to nothing more or who can afford nothing better.

All of these categories, and many others, are commercial ventures where functions are undertaken in order to make profit.

There are also considerable differences to be found in the extent to which the caterer is involved in function work. A banquet manager and his supporting staff are full-time professional caterers and experts in their chosen field, whereas for many other caterers, function work is only one part of their duties and responsibilities.

### 3.4 Functions/Events in Non-Commercial Catering

Many functions take place in industrial, institutional and welfare outlets where the objective is not primarily to make profit, but to provide a necessary service. This change of motive has different effects in different establishments, depending upon whether the catering department is part of profit-making organisation or not.

Many welfare outlets are short of funds but nevertheless require functions, since these are often important to the life of the community. This sometimes means that the caterer works to a very tight budget, when cider cup must replace wine at a dinner, and the extra expenditure on a better quality of paper napkins, for instance, cannot even be contemplated. To produce successful functions in these circumstances is challenging, to say the least, and requires expedients unthinkable to the banquet managers of five-star hotels.

In industrial catering outlets it sometimes happens that a caterer has a budget for a function which many a commercial caterer would envy. If a governor of a state and national and local dignitaries were guests at a reception and banquet to celebrate the opening of a new multi-million naira industrial complex, the caterer would be working to a cost-per-head rather higher than that of a hospital caterer providing a buffet luncheon for a retiring matron. In both of these cases, however, the function arises from the needs of the organisation, not from the need to increase turnover or the desire to make profit.

Furthermore, industrial catering operations are part of profit-making enterprises, and functions in these circumstances are indirectly concerned with profit, as are other aspects of industry not directly connected with production and sales. In general, therefore, functions in the industrial sector do not suffer from lack of funds. Many industrial caterers are only responsible for food costs, and consequently the overheads of a function in this sector are rarely built into the function budget.

No caterer is likely to operate without some form of cost control, even for a function, but if the organisation for which he works is profit-oriented a function can have immeasurable invisible returns if it is for purposes of good-will or sales promotion, and this will be reflected in the budget.

The other main difference between the commercial and non-commercial sides of the industry, as far as function work is concerned, is that non-commercial caterers are not in competition with each other for business since their functions 'belong to their employing organisation. Indeed,

many hard-pressed caterers in these sectors would in no doubt be relieved if their function work-load were somewhat lessened.

Whatever other abilities the caterers in the non-commercial sector may need, they rarely need that entrepreneurial spirit which is so often essential in commercial function catering.

The resources available within the organisation can vary widely. A caterer in the industry may be able to use the transport department (to collect and return hired equipment, or even to obtain and deliver little-known regional delicacies) or the printing and design departments (to produce tailor-made table decorations and menus) and none of these services is cost by anyone. A caterer within a university or college may be able to use students as ready supply of casual labour, and a caterer in a hospital may be able to obtain flowers for table decoration without incurring any expense.

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### 3.4 Functions/Events in Semi-Commercial Catering

There are catering operations which have a foot in both the commercial and welfare camps, and civic catering and university catering are two examples of these. In civic catering, profit is not the motive for providing a banquet by the local government chairman, but the same premises, staff and equipment may be used to cater for a wedding reception, which is undoubtedly commercial catering.

Catering in universities has a financial structure too complex but functions for staff and students must at least break even. Vacation conferences, however, come into a different category, and a university would expect functions for these to show a worthwhile profit.

Nevertheless, the reason for the existence of a catering department in both of these situations is not primarily one of profit, but arises from the need to provide a service, and even though the caterer may be justifiably proud of increasing the turnover of the commercial aspects of his operation, it is basically a non-commercial operation nevertheless. This may appear to be a fine distinction but the protests of commercial function caterers who find themselves in direct competition with either civic catering or university catering suggest that there may be some truth in their claim that these operations enjoy an element of subsidy from either the tax-payer or the rate-payer.

The exact circumstances – financial and otherwise – in which function caterers of all types operate are so diverse and even at times so obscure, that there is no point in trying to outline all the differences with any degree of precision.

### 3.5 Function/Event Organisation

#### Event Menus

There should be a varied choice of menu within a price range, with special menus available for occasions such as weddings, twenty-first birthday parties and New Year's Eve. The number of courses at a banquet is normally four, plus beverages, but can be many more, and often include:

- hors-d'oeuvre or other appetisers
- soup or fish
- meat/vegetarian – with a selection of seasonal vegetables
- sweet
- coffee or tea – with a selection of petit fours.

Deleted: petits

This approach is generally popular, but extra alternative courses such as entrees, cheese or savouries may be added.

#### Service Methods in Event Catering

For events the service method may take the following forms:

- silver
- plate
- self-service
- family
- assisted service.

The type of service method chosen is usually determined by the:

- host's wishes
- equipment available
- type of function
- food and beverages to be served
- time available for the function
- skills of the service staff available
- foods and beverages to be served.

#### SELF-ASSESSMENT EXERCISE

- i. Give examples of the following types of functions
  - a. Social
  - b. Conferences
  - c. Public relations
- ii. What advantages does a caterer in an industrial catering operation have over one in the organising of a function?

## 4.0 CONCLUSION

You have been taught the different types of functions/events that are available, and the procedure for carrying them out. You are expected to plan and promote the sale of an event.

## 5.0 SUMMARY

For your function to be successful and memorable, you need to have a good organising ability to ensure that the various technical parts of the functions are coordinated into a smooth and efficient whole. There is also the need to have a good deal of showmanship.

## 6.0 TUTOR-MARKED ASSIGNMENT

Differentiate between commercial, non-commercial and semi-commercial catering.

## 7.0 REFERENCES/FURTHER READING

Lillicrap, D. & Cousins, J. (2010). *Food and Beverage Service*. (8th ed.). London: Book Power with Hodder Educ.

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## **UNIT 4 MEAT COOKERY**

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### **1.0 INTRODUCTION**

We learnt how to cater in functions in unit 3. In this unit, we shall learn how to recognise good quality meat and offal, the suitable methods for

preparing and cooking the joints or cuts of meat and offal and how to ensure safe and hygienic practices in meat cookery.

Meat is still the most expensive item on the budget and a great deal of thought should be put into choosing and using it wisely.

## **2.0 OBJECTIVES**

At the end of this unit, you should be able to:

- describe how to choose and buy meat
- explain suitable cooking methods for joints or cuts of meat and offal
- discuss and practise how to cook meat and offal in safe and hygienic ways.

## **3.0 MAIN CONTENT**

### **3.1 Choosing and Buying Meat**

Meat from specific parts of an animal may be cut and cooked according to local custom and, more strictly, by religious observance

Meat, is a natural and therefore not a uniform product, varying in quality from carcass to carcass, while flavour, texture and appearance are determined by the type of animal and the way it has been fed. There is no reason to think that flavour is obtained only in meat that possessed a proportion of fat, although fat does give a characteristic flavour to meat and helps to keep it moist during roasting. Neither is the colour of meat any guide to quality. Consumers are inclined to choose light-coloured meat - bright red beef, for example - because they think that it will be fresher than an alternative dark-red piece. Freshly butchered beef is bright red because the pigment in the tissues, myoglobin, has been chemically affected by the oxygen in the air. After several hours, the colour changes to dark red or brown as the pigment is further oxidised to become metamyoglobin. The colour of fat can vary from almost pure white in lamb, to bright yellow in beef. Colour depends on the feed, on the breed and, to a certain extent, on the time of year.

The most useful guide to tenderness and quality is the knowledge of the cuts of meat and their location on the carcass but in principle the leanest and most tender cuts - the 'prime' cuts - come from the hindquarters. The 'coarse' cuts, or meat from the neck, legs and forequarters, those parts of the animal that have had plenty of muscular exercise and where fibres have become hardened, provide meat for



braising and stewing. Many consider these cuts to have more flavour, although they require slow cooking to make them tender. The meat from young animals is generally tenderer and since tenderness is a prime factor, animals may be injected before slaughter with an enzyme, such as papin, which softens the fibres and muscles. This merely speeds up a natural and more satisfactory process: meat contains its own proteolytic enzymes, which gradually break down the protein cell walls as the carcass ages; that is why meat is hung for from 10 to 20 days in controlled conditions of temperature and humidity before being offered for sale.

### 3.2 Cooking

Meat is an extremely versatile product that can be cooked in a multitude of ways, and matched with practically any vegetable, fruit and herb. The cut (shin, steak, brisket), the method of heating (roasting, braising, grilling), and the time and temperature all affect the way the meat will taste. When you cook meat, the protein gradually coagulates as the internal temperature increases. At 77°C, coagulation is complete, the protein begins to harden and further cooking makes the meat tougher.

Since tenderness combined with flavour is the aim in meat cookery, much depends on the ratio of time and temperature. In principle, slow cooking retains the juices and produces a more tender result than does fast cooking at high temperatures. There are, of course, occasions when high temperatures are essential: for instance, you need to grill a steak under a hot flame for a very limited time in order to obtain a crisp, brown surface and a pink, juicy interior - using a low temperature would not give you the desired result. But in potentially tough cuts such as breast or where there is a quantity of connective tissue (neck of lamb), a slow rate of cooking converts the tissues to gelatine and helps to make the meat more tender. Meat containing bone will take longer to cook because bone is a poor conductor of heat. Tough or coarse cuts of meat should be cooked by braising, pot roasting or stewing. Marinating in a suitable marinate, such as wine and wine vinegar, helps to tenderise the meat and imparts an additional flavour. Searing meat in hot fat or in a hot oven before roasting or stewing helps to produce a crisp exterior by coagulating the protein but does not, as is widely supposed, seal in the juices. However, if the external temperature is too high and cooking prolonged, rapid evaporation and contraction of the meat will cause considerable loss of juices and fat. Salt sprinkled on meat before cooking will also hasten *loss* of moisture since salt is hygroscopic and absorbs water.

Cuts of meat also contain elastin and collagen: elastin (the muscle group associated with tendons and arteries) is extremely strong, and further cooking adds to its strength; collagen (the main muscle proteins, which amount to the highest proportion of mass in the muscle) is rather tough and chewy. Meat that has a higher proportion of both, usually from the major and highly worked muscle groups, would not be suitable for prime cooking. However these cuts of meat may be cooked for longer at the correct temperature (braising), dissolving the collagen as it is water soluble, forming gelatine and offering a tasty joint of meat.

Prime cuts, such as beef fillets, have little collagen in their make-up (approximately three per cent) and do not require long cooking to tenderise the joint. Although most chefs would adopt a high temperature for a short period on the prime cuts, this does not always yield a perfect result. Due to the lack of fat and collagen in such cuts of meat, high heat will render the muscle fibres dry and, consequently, the eating quality is impaired. A lower temperature and longer time in the oven will produce a gradual heat, therefore there is less extreme coagulation in the tissues and less fluid will have been squeezed out in the process.

To put this theory into simple term when cooking meat, a fillet steak (for example) would be sealed in hot oil (180°C-200°C or even hotter) and then the heat would be reduced slightly to finish the cooking. The process that takes place is one of (to put it scientifically) 'thermal energy' or molecular conduction: the first layer of molecules heating the next, and so on, until the desired degree of cooking is achieved at the core (rare, medium, etc.). To achieve a core temperature of 55 °C-60°C, 25 per cent of the meat would be overcooked. Therefore if the temperature was to be reduced to a constant 59°C (just before the protein collapses) and the meat cooked for longer, adopting the molecular conduction theory, more than 95 per cent of the meat would be perfectly cooked.

When cooking meats at low temperatures, there is one obvious flaw: the meat will not be exposed to the high cooking temperatures that develop that beautiful roasted flavour. This chemical reaction of browning is called the Maillard reaction and is an extremely complicated chain of reactions that involves carbons, proteins, sulphurs, etc. One thing about this reaction is that at 140°C and above, you will start to release the wonderful roasted meat flavours. Therefore, when slow-cooking meats they will need to be started very quickly on a hot pan on the stove to initiate this Maillard reaction in the meat and give the meat a roasted flavour. In some cases you will need to quickly return the meat to the pan to re-caramelize the outside;

alternatively, if the joint is dense and large, remove from the low oven and increase the temperature to 190-200°C. When the oven is up to the required temperature, return the joint to it for a short while to crisp up the outside. The density of the meat and size of the joint will ensure that there will be very little secondary cooking or residual heat left to cook through to the core.

The collagen that makes up connective tissue requires long cooking at moderate temperature to render it supple in the mouth and to be converted into gelatine (a form of secondary /internal basting). When basting, care should be taken not to destroy the secondary basting properties of the collagen as at temperatures above 88°C the collagen will dissolve rapidly into the braising medium, impairing the eating quality. As cooking methods and understanding of meats develop, we now know more about the effect that heat has on the make-up of meat. Therefore, the traditional braising method of bringing the casserole to a simmer and placing it in the oven at 140°C could, in theory, render the structure of the meat dry due to the fact that at 88°C collagen rapidly dissolves into the cooking medium, yielding a beautifully gelatinous and well-flavoured sauce, and making the eating quality of the meat dry and tough.

To modernise the braising approach the cooking medium would need to be at between 80°C and 85°C; this is best controlled on the top of the stove. Alternatively, set your oven at 90°C (approximately) checking the cooking medium once in a while.

All the techniques above, which are used to slow-cook prime, secondary and highly worked muscle groups, are very controlled and accurate, and rely on constant attention to ensure that they are not rapidly cooking, and that they are in fact actually cooking, if cooking at low temperatures. The general rule of thumb is: the more collagen, the higher the temperature needed to enable the collagen to dissolve, forming gelatine that will then in turn baste the meat and offer a perfectly braised and moist piece of meat.

### **3.2.1 The Maillard Reaction**

When cooking meats, flavour is developed. This happens when the meat proteins are heated, with sugars to temperatures above 140°C, and a series of chemical reactions occur, known as the Maillard reaction. During this process, sugars and amino acids react together. The sugars come from carbohydrates and the amino acids from the protein.

In the first stage of the reaction the proteins and carbohydrates are degraded into smaller sugars and amino acids. Next, the sugar rings

open and the resulting aldehydes and acids react with the amino acids to produce a wide range of chemicals, These new molecules then react among themselves to produce the main flavour compounds.

Controlling the Maillard reaction is difficult. A chef must know how much heat to apply to a piece of meat to produce the right flavour. The Maillard reaction takes place quickly and only at temperatures above 140°C, These high temperatures will occur only at the surface of the meat. Inside there is water, which cannot be heated above 100°C without turning to steam. Flavour will be developed more quickly if you increase the surface area of the meat.

The combination of attempting not to heat above 40°C those Muscles that contain little connective tissue, while heating those parts where there is lots of connective tissue to temperatures above 70°C, and at the same time ensuring that some parts are heated to above 130°C, makes the cooking of meats a complex process.

Always ensure that the outside of the meat is cooked at a high temperature (until it is a dark brown colour), in order to seal in and develop the flavour. Cook meats with little connective tissue for only a short time. Seal the outside so that it is browned and so that the inside does not become tough (e.g. by grilling, frying or roasting).

Meats with lots of connective tissue should be cooked for longer so that all the connective tissue denatures and the bundles of coagulated muscle proteins fall apart, rendering the meat tender (e.g. by stewing or braising).

**Common Cooking Methods**

Saddle	roast, pot roast (poele) roast
Loin	roast
Fillet	grill, fry
Loin chop	grill, fry, stew, braise
Chump chop	grill, fry, stew, braise
Kidney	grill, sauté

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**3.3 Preparation of Joints and Cuts**

**3.3.1 Shoulder**

- i. **Roasting:** Clean and trim the knucklebone so as to leave approximately 3cm of clean bone.
- ii. **Boning:** Remove the blade bone and upper arm bone.
- iii. **Cutting for stews:** Bone out, cut into even 25-50 g pieces.
- iv. **Roasting:** Remove the pelvic or aitchbone; trim the knuckle

cleaning 3 cm of bone; trim off excess fat and tie with string if necessary.

### 3.3.2 Breasts

- i. Remove excess fat and skin.
- ii. **Roasting:** bone, stuff and roll, tie with string.
- iii. **Stewing:** cut into even 25-50 g pieces.

### 3.3.3 Middle Neck

**Stewing:** Remove excess fat, excess bone and gristle; cut into even 50g pieces; this joint, when correctly butchered, can give good uncovered second-class cutlets.

### 3.3.4 Scrag-End

**Stewing:** This can be chopped down the centre the excess bone, fat and gristle removed, and cut into even 50 g pieces, or boned out and cut into pieces.

### 3.3.5 Saddle

The saddle may be divided as follows; remove the skin, starting from head to tail and from breast to back; split down the centre of the backbone to produce two loins; each loin can be roasted whole, boned and stuffed, or cut into loin and chump chops.

### 3.3.6 Saddle for Roasting

- i. Skin and remove the kidney.
- ii. Trim the excess fat and sinew.
- iii. Cut off the flaps leaving about 15cm each side so as to meet in the middle under the saddle.
- iv. Remove the aitch, or pelvic, bone.
- v. Score neatly and tie with string.
- vi. For presentation the tail may be left on, protected with foil and tied back.
- vii. The saddle can also be completely boned, stuffed and tied.

### 3.3.7 Loin for Roasting

Skin, remove excess fat and sinew, remove the pelvic bone, and tie with string.

### **3.3.8 Loin, Boned and Stuffed**

Remove the skin, excess fat and sinew. Bone out, replace the fillet and tie with string. When stuffed, bone out, season, stuff and tie.

## **3.4 Chop**

### **3.4.1 Loin Chops**

Skin the loin, remove the excess fat and sinew, and then cut into chop approximately 100-150g in weight.

A first-class, loin chop should have a piece of kidney skewered in the centre.

### **3.4.2 Double Loin Chop (Also Known as a Barnsley Chop)**

These are cut approximately 2cm across a saddle on the bone.

When trimmed they are secured with a skewer and may include a piece of kidney in the centre of each chop.

### **3.4.3 Chump Chops**

These are cut from the chump end of the loin.

Cut into approximately 150 g chops, trim where necessary.

## **3.5 Noisette**

This is a cut from a boned-out loin.

Cut slantwise into approximately 2 cm thick slices bat out slightly, trim into a cutlet shape.

## **3.6 Rosette**

This is a cut from a boned-out loin approximately 2 cm thick. It is shaped round and tied with string.

## **3.7 Best End (Rack)**

### **Best end preparation**

- i. Remove the skin from head to tail and from breast to back.
- ii. Remove the sinew and the tip of the blade bone.
- iii. Complete the preparation of the rib bones

- iv. Clean the sinew from between the rib bones and trim the bones.
- v. Score the fat neatly to approximately 2mm deep.
- vi. Trim the overall length of the rib bones to two and a half times the length of the nut of meat.
- vii. Roasting: prepare as above.
- viii. Cutlets: prepare as for roasting, excluding the scoring, and divide evenly between the bones, or the cutlets can be cut from the best end and prepared separately. A double cutlet consists of two bones; therefore a six-bone best end yields six single or three double cutlets.

### **3.8 Preparation of offal**

#### **3.8.1 Kidney**

- i. Grilling: Skin and split three-quarters of the way through lengthwise; cut out and discard the gristle, and skewer.
- ii. Saute: Skin and remove the gristle. Cut slantways into 6-8 pieces.

#### **3.8.2 Hearts**

Braising: Remove the tubes and excess fat.

#### **3.8.3 Liver**

Remove skin, gristle and tubes and cut into thin slices on the slant.

#### **3.8.4 Sweetbreads**

- i. Wash well, blanch and trim.
- ii. Soak in salted water for two to three hours to remove any traces of blood.

#### **3.8.5 Tongue**

- i. Remove the bone and gristle from the throat end.
- ii. Soak in cold water for two to four hours. If salted, soak for three to four hours.

### **3.9 Roasting of Lamb and Mutton**

- i. Season the joints lightly with salt and place on a trivet, or bones, in a roasting tray.
- ii. Place a little vegetable oil or dripping on top and cook in a hot

- oven at 175-185°C.
- iii. Baste frequently and reduce the heat gradually when necessary, as for example in the case of large joints.
  - iv. Roast for approximately 20 minutes per  $\frac{1}{2}$  kilo, plus another 20 minutes.
  - v. To test if cooked, place on a tray and press firmly in order to see if the juices released contain any blood.
  - vi. In general, all joints should be cooked through. If joints are required pink, reduce the cooking time by a quarter.
  - vii. Allow standing for approximately 10-15 minutes before carving; if this is not done the meat will tend to shrink and curl.
  - viii. Allow approximately 150g meat on the bone per portion (legs, shoulders, saddle or loin rump, best end and breast).
  - ix. Allow approximately 150g meat on the bone per portion (legs, shoulders, saddle or loin rump, best end and breast).

### 3.10 Roast Gravy

- i. Place the roasting tray on the stove over a gentle heat to allow the sediment to settle.
- ii. Carefully strain off the fat, leaving the sediment in the tray.
- iii. Return to the stove and brown carefully, deglaze with brown stock.
- iv. Allow to simmer for a few minutes.
- v. Correct the seasoning and colour, then strain and skim.

### 3.11 Variation

Variations include:

- i. Several peeled cloves of garlic inserted into the flesh of joints before roasting
- ii. A little rosemary sprinkled into boned joints before tying.
- iii. Springs of rosemary placed on roasting joints halfway through cooking in small-scale cookery, vegetables (e.g. potatoes, parsnips, onions, carrots, left whole or cut into large pieces, can be roasted in with the meat.
- iv. Slow cook - roast at 200°C for 20 minutes then reduce temperature to 130°C, basting frequently; if required the leg can be flavoured with slices of peeled garlic cloves inserted into slashes cut into the flesh before cooking.

### SELF-ASSESSMENT EXERCISE

- i. Enumerate the quality points to look for when choosing:
  - (a) Kidneys
  - (b) Liver
  - (c) Sweet bread
- ii. Discuss the cooking temperatures for meat.



## 4.0 CONCLUSION

Raw meat is difficult to chew hence the aim of meat cookery is to achieve tenderness and flavour. This can be achieved by cooking meat in a variety of ways.

## 5.0 SUMMARY

In order to get the best from meat, it is important for you to understand the structure, cooking qualities of different cuts of meat. Preparation of meat and the practice of meat cookery following the laid down principles cannot be over-emphasised.

## 6.0 TUTOR-MARKED ASSIGNMENT

1. Explain the order of dissection of a carcass.
2. How do you prepare saddle for roasting?

## 7.0 REFERENCE/FURTHER READING

Campbell, J, Foster, D. & Ceserani, V. (2008). *Practical Cookery*. (11th ed.). London: [Book Power](#).

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## **UNIT 5 COOK-CHILL, COOK-FREEZE**

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### **1.0 INTRODUCTION**

This unit shall give insight into the meaning, procedure for cook-chill, cook-freeze and sous-vide systems of catering.

## 2.0 OBJECTIVES

At the end of this unit, you should be able to:

- identify the benefits of cook-chill, cook-freeze and *sous vide*
- differentiate between cook-chill, cook-freeze and *sous vide*
- analyse the cook-chill, cook-freeze and *sous vide* process
- list and discuss the foods suitable for the cook-chill, cook-freeze process.

## 3.0 MAIN CONTENT

### 3.1 COOK-CHILL

Cook-chill is a catering system based on normal preparation and cooking of food followed by rapid chilling storage in controlled low-temperature conditions above freezing point, 0.3<sup>0</sup> C (32-37<sup>0</sup>F) and subsequently reheating immediately before consumption. The chilled food is regenerated in finishing kitchens which require low capital investment and minimum staff. Almost any food can be cook-chilled provided that the correct methods are used during the preparation.

The cook-chill system is used in volume catering, in hospitals, schools and in social services. It is also used for banquets, in conference and exhibition catering, in vending machines where meals are dispensed to the customer, in factories, hospitals and services outside of main meal times.

#### 3.1.1 Foods Suitable for the Cook-Chill Process

All meat, poultry, game and offal can be cook-chilled. Meat dishes that need to be sliced, such as sirloin of beef, is cooked, rapidly chilled, sliced and package for storage. The regeneration temperature must reach 70°C (158°F) in the centre of the produce for 2 minutes. Therefore, it is not possible to serve undercooked meats. The following foods are suitable for cook-chilling:

- fish
- egg dishes
- desserts
- soups and sauces
- battered fish
- stewed/braised items
- creamed and mashed potatoes.

### 3.1.2 The Purpose of Chilling Food

The purpose of chilling food is to prolong its storage life. Under normal temperature conditions, food deteriorates rapidly through the action of micro-organisms and enzymic and chemical reactions. Reduction in the storage temperature inhibits the multiplication of bacteria and other micro-organisms and slows down the chemical and enzymic reactions. At normal refrigeration temperatures, reactions are still taking place but at a much slower rate, and at frozen food storage temperatures,  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) approximately, all reactions nearly cease. A temperature between  $0-3^{\circ}\text{C}$  ( $32-37^{\circ}\text{F}$ ) does not give a storage life comparable to frozen food but it does produce a good product.

It is generally accepted that, even where high standards of fast chilling practice are used and consistent refrigerated storage is maintained, product quality maybe acceptable for only a few days (including day of production and consumption). The storage temperature of  $0-3^{\circ}\text{C}$  ( $32-37^{\circ}\text{F}$ ) is of extreme importance to ensure both full protection of the food from microbiological growth and the maintenance of maximum nutritional-values in the food. It is generally accepted that a temperature of  $10^{\circ}\text{C}$  ( $50^{\circ}\text{F}$ ) should be regarded as the critical safety limit for the storage of refrigerated food. Above that temperature, growth of micro-organisms may render the food dangerous to health.

### 3.1.3 The Cook-Chill Process

- i. The food should be cooked sufficiently to ensure destruction of any pathogenic micro-organism.
- ii. The chilling process must begin as soon as possible after completion of the cooking and portioning processes, within 30 minutes of leaving the cooker. The food should be chilled to  $3^{\circ}\text{C}$  ( $37^{\circ}\text{F}$ ) within a period of  $1\frac{1}{2}$  hours (90 minutes). Most pathogenic organisms will not grow below  $7^{\circ}\text{C}$  ( $45^{\circ}\text{F}$ ), while a temperature below  $3^{\circ}\text{C}$  ( $37^{\circ}\text{F}$ ) is required to reduce growth of spoilage organisms and to achieve the required storage life. However, slow growth of spoilage organisms does take place at these temperatures and for this reason storage life cannot be greater than five days.
- iii. The food should be stored at a temperature between  $0-3^{\circ}\text{C}$  ( $32-37^{\circ}\text{F}$ ).
- iv. The chilled food should be distributed under such controlled conditions that any rise in temperature of the food during distribution is kept to a minimum.
- v. For both safety and palatability the reheating (regeneration) of the food should follow immediately upon the removal of the food from chilled conditions and should raise the

- temperature to a level of at least 70°C (155°F).
- vi. The food should be consumed as soon as possible and not more than two hours after reheating. Food not intended for reheating should be consumed as soon as convenient and within hours of removal from storage. It is essential that unconsumed reheated food is discarded.
  - vii. A temperature of 10°C (50°F) should be regarded as the critical safety limit for chilled food. Should the temperature of the chilled food rise above this level during storage or distribution, the food concerned should be discarded.
  - viii. Cook-chill is generally planned within a purpose-designed, comprehensive, new central production unit to give small, medium or large-scale production along predefined flow lines, incorporating traditional catering/chilling/post-chilling packaging and storage for delivery to finishing kitchens. Within an existing kitchen, where existing equipment is retained with possible minor additions and modifications, chilling/post-chilling packaging and additional storage for cooked chilled food are added.

#### **3.1.4 Finishing Kitchens**

These can consist of purpose-built regeneration plus refrigerated storage. Additional equipments, such as a chip fryer, boiling tab sauces, custard, vegetables, etc., can be added if required to give greater flexibility.

Where chilled food is produced to supply a service on the same premises, it is recommended that the meals should be supplied, stored and regenerated by exactly the same method as used for operations where the production unit and finishing kitchens are separated by some distance.

Failure to adhere to just one procedure could result in disorganised production and reduced productivity. Once a decision is taken to sever production from service this method should be followed throughout the system.

#### **3.1.5 Distribution of Cook-Chill**

Distribution of the chilled food is an important part of the cook-chill operation. Fluctuations in storage temperature can affect the palatability and texture of food and lead to microbiological dangers requiring the food to be discarded. The distribution method chosen must ensure that the required temperature of below 3°C (37°F) is maintained throughout the period of transport. Should the temperature of the food exceed 5°C (41°F) during distribution the food ought to be consumed within 12

hours; if the temperature exceeds 10°C (50°F) it should be discarded (Department of Health guidelines). Because of this, refrigeration during distribution is to be encouraged in many circumstances.

In some cases the cook-chill production unit can also act as a centralised kitchen and distribution point. Food is regenerated in an area adjacent to the cook-chill production area and heat retention or insulated boxes are used for distribution. During transportation and service, the food must not be allowed to fall below 62.8°C (145°F).

### **3.1.6 Initial Cooking and Processing**

During the cooking process the centre of the food must reach a temperature of at least 70°C (158°F); preferably this temperature should reach 75°F or even 80°C (167-177°F) to achieve a greater safety margin. This should take place under appropriate conditions in a controlled environment, which is maintained to the highest hygiene standards. The depth of the food should be no more than approximately 5 cm (2 inch). The containers must be labeled with date of cooking, number of portions and reheating instructions.

## **3.2 Portioning**

This should take place under appropriate conditions in a controlled environment, which is maintained to the highest hygiene standards. The depth of the food should be no more than approximately 5cm (2 inch). The containers must be labeled with date of cooking, number of portions and reheating instructions.

### **Chilling**

All food must be chilled within 30 minutes of cooking and reduced to a temperature of 0-3°C (32-37°F) within 90 minutes.

### **Portioning after chilling**

In some cook-chill systems the food is chilled in multi-portion containers, and then plated before reheating. The portioning process should be carried out in a controlled environment within 30 minutes of the food leaving the chilled store and before reheating commences at a temperature of 10°C (50°F). It is then transported under chilled conditions to the desired location, for example the hospital ward where it is reheated to at least 70°C (158°F) but preferably 80°C (177°F) on the plate on which it is to be served.

**Storage**

All chilled cooked food must be stored in its own special refrigeration area. Never store cooked chilled food under the same conditions as fresh products. Always monitor the temperature of the product regularly.

**Reheating**

All cook-chill food must be reheated as quickly as possible to a minimum temperature of 70°C (158°F), ideally 75°C (167°F) but preferably 80°C (177°F).

**3.3 Storage and Quality of Cook-Chill Foods**

It has been observed that during the storage period before reheating and consumption, certain products deteriorate in quality.

- i. The flavour of certain meat dishes, in particular white meats, veal and poultry, deteriorates after three days.
- ii. Chilled meats without sauces can develop acidic tastes. Fatty foods tend to develop off flavours due to the fat oxidising.
- iii. Fish dishes deteriorate more rapidly than meat dishes.
- iv. Dishes containing meat tend to develop a flat taste and if spices have been used these can dominate the flavour of the meat by the end of the chilled storage period.
- v. Vegetables in general may discolour and develop a strong flavour. Dishes which contain large amounts of starch may taste stale after the chilled storage time.

**3.4 Containers**

The choice of containers must protect and in some cases enhance the quality of the product at all stages, it must assist in the rapid chilling, safe storage and effective reheating. Therefore the container must be:

- i. Sturdy: Able to withstand chilling, handling and reheating.
- ii. Safe: Not made of a substance that will cause harmful substances to develop in the food, nor react with the food to cause discolouring or spoilage.
- iii. Have an easy-to-remove lid: Without damaging contents or causing spillage.
- iv. Attractive: To enhance the appearance of the product.
- v. Airtight and watertight: So that moisture, flavour or odour do not penetrate the food or escape during storage and transportation.

There are various types of containers, some are listed below:

**Single-portion containers**

These can be of cardboard laminated with plastic; aluminum foil (unsuitable for microwave heating); plastic compounds; stainless steel

and ceramic which are durable and reusable (stainless steel is, however, unsuitable for microwave ovens).

### **Multi-portion Containers**

These can be of strong plastic compounds, stainless steel, ceramic or aluminum foil.

Colour coding is sometimes used to help identify the different days of product for example:

Sunday	white
Tuesday	Yellow
Monday	Red
Wednesday	Blue
Thursday	Orange
Friday	Green
Saturday	Purple

## **3.5 Chilling Equipment**

Only specially purpose built and designed equipment can take the temperature of cooked food down to safe levels fast enough.

### **Blast chillers or air blast chillers**

These use rapidly moving cold air to chill the food evenly and rapidly. Some models have temperature probes so that the temperature of the food being chilled can be checked without opening the door.

### **Cryogenic batch chillers**

These use liquid nitrogen at a temperature of - 196°C (321°F); this is sprayed into the chilling cabinet containing the warm food. In the warmer temperature of the cabinet, the liquid nitrogen turns to super cold gas absorbing the heat from the food as it does so. Fans move the cold gas over and around the food; once the gas has become warm it is removed from the cabinet. Some equipment use carbon dioxide instead of nitrogen.

## **3.6 Reheating Equipment**

The caterer has the following choice of equipment for regenerating cook-chill products.

- Combination ovens
- Steamers
- Microwave Ovens
- Infra-red ovens



## **3.7 Cook-Freeze**

Cook-freeze is a specialised food production and distribution system that allows caterers to take advantage of the longer life through blast freezing at -18 to -20°C (0° to -32°F) and stored at that temperature until required for resale or consumption for up to three to six months.

### **3.7.1 The Cook-Freeze Process**

Cook-freeze uses a production system similar to that used in cook-chill. The recipes used have to be modified, enabling products to be freezer-stable, and modified starches are used in sauces so that on reheating and regeneration the sauce does not separate. Blast freezers are used in place of blast chillers. The freezing must be carried out very rapidly to retain freshness and to accelerate temperature loss through the latent heat barrier, thus preventing the formation of large ice crystals and rupturing of the cells.

Blast freezing takes place when low temperature air is passed over food at high speed, reducing food in batches to a temperature of at least -20°C (-4°F) within 90 minutes. Blast freezers can hold from 20 to 400 kg (40-800 lb) per batch, the larger models being designed for trolley operation.

### **3.7.2 Preparation of Food**

The production of menu for a month is drawn up and the total quantities of different foods required calculated. Supplies are then ordered with special attention given to their being of high quality.

The dishes included in the menu must be cooked to the highest standard with rigid attention to quality control and hygiene. Deep-freeze temperatures prevent the multiplication of micro-organisms but do not destroy them. If therefore a dish was contaminated before being frozen, consumers would be put at risk months later when the food is prepared for consumption. The exact adjustment of recipes to produce the best results when the food is subsequently thawed and reheated is still in the process of being worked out by chefs, using numerous variations of the basic system. The single change needed in cookery recipes involving sauces, is the selection of an appropriate type of starch capable of resisting the effect of freezing. Normal starches will produce a curdled effect when subsequently thawed and reheated.

In order to achieve rapid freezing with a quick reduction of temperature to -18°C (0°F) or below, the cooked food must be carefully portioned (close attention being paid to the attainment of uniform portion sizes),

each placed into a disposable aluminum foil container, may conveniently be placed into aluminum foil trays holding from 6 to 10 portions each, sealed and carefully labeled with their description and date of preparation.

### **3.7.3 Freezing**

The food thus divided into portions and arranged in trays is immediately frozen. An effective procedure is to place the trays on racks in a blast-freezing tunnel and expose them to a vigorous flow of cold air until the cooked items are frozen solid and the temperature reduced to at least -5°C (23°F). The quality of the final product is to a significant degree dependent on the rapidity with which the temperature of hot cooked food at say 80°C (176°F) is reduced to below freezing. The capacity of the blast freezer should be designed to achieve this reduction in temperature within a period of one to one and half hours.

### **3.7.4 Storage of Frozen Items**

Once the food items are frozen they must at once be put into a deep-freeze store maintained at 18°C (0°F). For a catering operation involving several dining rooms and cafeterias, some of which may be situated at some distance from the kitchen and frozen store, a four weeks supply of cooked dishes held at low temperature allows full use to be made of the facilities.

### **3.7.5 Transport of Frozen Items to the Point of Service**

If satisfactory quality is to be maintained, it is important to keep food, frozen in the cooked state, frozen until immediately prior to its being served. It should therefore be transported in insulated containers to peripheral or finishing kitchens, if such are to be used, where it will be reheated. If frozen dishes are to be used in outside catering, provision should be available for transporting them in refrigerated transport and, if necessary, a subsidiary deep-freeze store should be provided for them on arrival.

### **3.7.6 Quality Control**

Adequate control of bacterial contamination and growth, which are hazards in any kitchen, can be achieved by a survey of the initial installation by a qualified analyst, and regular checks taken on every batch of food cooked.

### 3.7.7 Packaging

Packaging is a very important consideration as this affects the storage and regeneration of the product. Containers must protect the food against oxidation during storage and allow for freezing and reheating. The containers must be:

Watertight;                    Disposable or reusable;  
Non-tainting;                equipped with tight-fitting lids.

### 3.7.8 Packaging Materials

There are a number of packaging materials available which include plastic compounds, aluminum foil and cardboard plastic laminates. These are available as single portion packs, complete meal packs and bulk packs.

### 3.7.9 Choosing the Container

Various factors affect your choice of container:

- menu choice
- food value
- storage space
- handling time
- quality of the food.

## 3.8 Advantages of Cook-chill/Cook-freeze

To the employer:

- i. Portion control and reduced waste.
- ii. No over-production.
- iii. Central purchasing with bulk buying discounts.
- iv. Full utilisation of equipment.
- v. Full utilisation of staff time.
- vi. Overall savings in staff.
- vii. Savings on equipment, space and fuel.
- viii. Fewer staff with better conditions - no unsociable hours, no weekend work, no overtime.
- ix. Simplified less frequent delivery to units.
- x. Solves problem of moving hot foods. (EC regulations forbid the movement of hot foods unless the temperature is maintained over 65°C (149°F). Maintaining 65°C is regarded as very difficult to achieve and high temperatures inevitably will be harmful to foods).

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To the customer:

- i. Increased variety and selection.
- ii. Improved quality, with standards maintained.
- iii. More nutritious foods.
- iv. Services can be maintained at all times, regardless of staff absences.

### 3.9 Advantages of Cook-Freeze over Cook-Chill

- i. Seasonal purchasing provides considerable savings.
- ii. Delivery to units will be far less frequent.
- iii. Long-term planning of production and menus becomes possible
- iv. Less dependence on price fluctuations
- v. More suitable for vending machines incorporating microwave

### 3.10 Advantages of Cook-Chill over Cook – Freeze

- i. Regeneration systems are simpler - infrared and steam convection ovens are mostly
- ii. Used and only 12 minutes is required to reheat all foods perfectly. Deleted: used
- iii. Thawing time is eliminated.
- iv. Smaller capacity storage is required: three to four days' supply as opposed to up 120 days.
- v. Chiller storage is cheaper to install and run than freezer storage.
- vi. Blast chillers are cheaper to install and run than blast freezers.
- vii. Cooking techniques are unaltered (additives and revised recipes are needed for
- viii. Freezing). Deleted: freezing
- ix. All foods can be chilled so the range of dishes is wider (some foods cannot be frozen). Cooked eggs, steaks and sauces such as Hollandaise can be chilled (after some recipe modification where necessary).
- x. No system is too small to adapt to cook-chill.

### 3.11 Sous-Vide (Vacuum Cooking)

This is a form of cook-chill, using a combination of vacuum sealing in plastic pouches, cooking by steam and then rapidly chilling in an ice-water bath, as this is the most effective way of chilling.

The objective is to rationalise kitchen procedures without having a detrimental effect on the quality of the individual dishes. The process is as follows:

- i. Individual portions of prepared food are first placed in special plastic pouches. That food can be fish, poultry, meats, vegetables, etc., to which seasoning, a garnish, sauce, stock, wine, flavouring, vegetables, herbs and/or spices can be added.
- ii. The pouches of food are then placed in a vacuum-packaging machine which evacuates all the air and tightly seals the pouch.
- iii. The pouches are next cooked by steam. This is usually in a special oven equipped with a steam control programme, which controls the injection of steam into the oven, to give steam cooking at an oven temperature below 100°C (212°F). Each food item has its own ideal cooking time and temperature.
- iv. When cooked, the pouches are rapidly cooled down to 3°C (37°F), usually in an iced water chiller or an air blast chiller for larger operations.
- v. The pouches are then, labelled and stored in a holding refrigerator at an optimum temperature of 3°C (37°F).
- vi. When required for service the pouches are regenerated in boiling water or a steam combination oven until the required temperature is reached, cut open and the food presented.

Vacuum pressures are as important as the cooking temperatures with regard to weight loss and heat absorption. The highest temperature used in *sous-vide* cooking is 100°C (212°F) and 1000 millibars is the minimum amount of vacuum pressure used.

As there is no oxidation or discoloration it is ideal for conserving fruits, such as apples and pears (pears in red wine, fruits in syrup). When preparing meats in sauces the meat is pre-blanching then added to the completed sauce.

*Sous-vide* is a combination of vacuum sealing, tightly controlled *en papillote* cooking and rapid chilling which can be used by almost any type of catering operation.

### Advantages

- i. Long shelf-life, up to 21 days, refrigerated.
- ii. Ability to produce meals in advance means better deployment of staff and skills.
- iii. Vacuum-packed foods can be mixed in cold store without the risk of cross-contamination.
- iv. Reduced labour costs at point of service.
- v. Beneficial cooking effects on certain foods, especially moulded items and pates. Reduces weight loss on meat joints.

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- vi. Full flavour and texture is retained as food cooks in its own juices.
- vii. Economies on ingredients (less butter, marinades, etc.).
- viii. Makes precooking a possibility for a la carte menus,
- ix. Inexpensive regeneration.
- x. Allows a small operation to set up bulk production.
- xi. Facilitates portion control and uniformity of standard.
- xii. Has a tenderising effect on tougher cuts of meat and matures game without dehydration.

### Disadvantages

- i. Extra cost of vacuum pouches and vacuum-packing machine.
- ii. Unsuitable for meats (fillet steak) and vegetables which absorb colour.
- iii. All portions in a batch must be identically sized to ensure even results.
- iv. Most dishes require twice the conventional cooking time.
- v. Unsuitable for large joints as chilling time exceeds 90 minutes.
- vi. Complete meals (meat and two vegetables) not feasible; meat component needs to be cooked and stored in separate bags.
- vii. Extremely tight management and hygienic controls are imperative.
- viii. Potentially adverse customer reaction ('boil-in-the-bag' syndrome).

### Points to remember

- i. High standards of kitchen hygiene and personnel hygiene must be employed.
- ii. Prime quality ingredients should be used.
- iii. All aspects of the Food Safety Act must be adhered to.
- iv. Where possible *sous-vide* should operate under a temperature controlled environment.
- v. All the basic principles of cook-chill apply to *sous-ride*.

### SELF-ASSESSMENT EXERCISE

Why is it necessary to do the following?

- i. cook-chill      ii. cook-freeze      iii. *sous vide*

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## 4.0 CONCLUSION

The cook-chill, cook-freeze system used in volume catering, allows you to make more productive use of kitchen staff. Strict hygienic procedures should however be followed to ensure that the purpose is not defeated.

## 5.0 SUMMARY

Meat, fish, egg, potatoes and many other dishes are suitable for cook-chill, cook-freeze and *sous vide*. The preparation, storage, labeling and regeneration procedures should be followed strictly.

## 6.0 TUTOR-MARKED ASSIGNMENT

1. List the advantages and disadvantages of *sous-vide*, cook-chill and cook-freeze.
2. Identify five things that would guide you in the choice of containers for cook-chill foods.
3. Analyse how freezing affects fruits and vegetables.

## 7.0 REFERENCES/FURTHER READING

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