



KINGDOM OF SAUDI ARABIA
MINISTRY OF MUNICIPAL
AND RURAL AFFAIRS
MINISTRY DEPUTSHIP FOR
MUNICIPAL AFFAIRS
GENERAL DEPARTMENT
OF ENVIRONMENTAL HEALTH

ACTION GUIDE FOR THE SANITARIAN

1430H / 2009G

*By the Name of GOD,
the Most Beneficent and Merciful*



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INTRODUCTION

Provision within the overall comprehensive development process currently under way in the Kingdom of Saudi Arabia, the government of the Custodian of the Two Holy Mosques and His Royal Highness Crown Prince has spared no effort to preserve the health and the environment and paid particular attention to the citizens' health and safety. Proceeding from this good direction, the Ministry of Municipal & Rural Affairs gave much interest on the public health services, including health supervision on foodstuffs and places handling food; because of the special importance is reflected directly on the health and safety of citizens. This was represented by the attention paid to the issuance of many laws and regulations and instructions to maintain the safety of food from pollution, corruption and protect the health of consumers. This, as well as to assign observation and ministry overseeing to the execution of such instructions, and to inspect the installations to verify their health requirements, taking the necessary actions towards installations around the offense.

The ministry is preparing this Guide "**Action Guide for Sanitarian**" as an adjutant to its oversight role in health inspection, and be a guide for sanitarians to standardize their concepts, and to clarify procedures and actions required by them; in order to let them all serve in one frame to achieve the same target and the same goal. The guide consists of eleven chapters, the **first** of which presents important definitions concerning food production, delivery and distribution, as well as places of handling foodstuffs. The **second** contains important information on food comprising information on corrupt or damaged food, food harmful to health and adulterated food, as well as under which food is prevented from handling or circulation, and so on. **Chapter III** examines the inspection process on food businesses explaining in detail the items of the inspection form, which is filled by the sanitarian on visiting the food premises; and also shows how to assess the various inspection

items. **Chapter IV** provides instructions to the sanitarian related to the health inspection register, explaining its importance and how to codify remarks; explain procedures required by him against the irregularities found. **Chapter V** reviews the role of sanitarian in the food poisoning episodes, in examination and investigation on the causes of poisoning, pointing to the required samples drawn and analyzed to find out the root causes of poisonings. **Chapters VI to VIII** detail the process of withdrawing samples of foodstuffs, Chapter VI describes the procedure for the withdrawal of the samples. Chapter VII details requirements and the transfer of samples taken for laboratory examination. Chapter VIII presents techniques to withdraw samples of various foodstuffs. **Chapter IX** provides golden rules for dealing with food, for the sanitarians or others get in close vicinity of foodstuffs. **Chapter X** displays the observation (including inspection) health plan. **Chapter XI** clarifies the contents of bag carried by the sanitarian during his work, which includes all tools and equipment and formats necessary to lead his work in full term.

It goes without saying that health observation (including inspection) on food businesses is a very important aiming to protect the health and safety of citizens; than give you my brother – the Sanitarian -a sense of honor to do it, and puts you-from the other side-the great responsibility requires great precision and diligence. We hope to achieve the purpose of this Guide, which was prepared for it, and ask God to guide us all to the good of the public.

Deputy of Ministry for Municipal Affairs
Mohamed Bin Ali Al-Sheikh

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CHAPTER ONE IMPORTANT DEFINITIONS

The Sanitarian should be familiar with some definitions of terms commonly used in the field of food supervision, to be clear meanings so that he can use the proper term without any confusion or overlap.

These definitions are divided into two groups:

First Group: General Definitions.

Second Group: Special Definitions that are varied with various activities of food establishment which inspected by Sanitarian

FIRST GROUP: GENERAL DEFINITIONS

Health Inspection:

A group of practical and administrative procedures taken in the field and in offices, aiming at consumer protection, assurance of provision of food services in the best ways, and verifying the safety and suitability of foodstuffs for human consumption and adherence to specifications as well as assurance of suitability of places used for preparation and formulation of foodstuffs and the locations set for presentation, means of transporting and distributing foods, in addition to assuring the safety of food handlers to assure the arrival of food to the consumer at the highest quality and kind possible.

Sanitarian:

A person responsible for works (duties) of health inspection.

Health:

The case of an individual which is fully in force and vigor from the physical and mental and social development, not only in terms of the absence of disease.

Food:

Total food and beverage fit for eating or drinking except medicine.

Food substance:

Any substance manufactured or semi-manufactured intended for direct human consumption, or used in the manufacture, preparation or treatment of food items, not including perfume or tobacco and their products, or any material used as medicament.

Food Sections:

Food divides into three groups according to the water content and the degree of being subjected to microbiological risk of spoilage.

1- Fixed Food: Food characterized by low water content and is not prone to easy spoilage with microorganisms, including grains, legumes, pasta, flour, margarine, oil, tea, coffee, sugar, spices and condiments. Can be stored in regular stores at room temperature (25 °C).

Half fresh (Semi-fresh) Food: Food with average water content, such as potato, carrot, onion, garlic, could be stored in warehouses regular good ventilation at room temperature (25 °C).

Fresh Food: Food with water content is extremely high and are prone to microbial spoilage, more than others, such as meat, fish, eggs, poultry, milk and dairy products, vegetables and fruits, and stored in refrigerators at (4 °C), or frozen at the (-18 °C).

Food handling:

Transfer or receiving or processing or preparation or submission or storage or supply of food targeting its selling.

Rolling Handler:

Everyone working in any stage of food handling.

Food industry:

A succession of steps in order to convert raw material whatsoever to the product more relevant for use by humans, regardless of the ultimate purpose for the production of this product.



Health requirements:

A set of controls that must be met in establishments connected with the provision of food. These requirements are divided into two categories:

1-general requirements: that applies to all premises, including: site, land-survey, building, facilities, services, equipment, safety and security.

2-Special requirements: namely those related to the specificity of each of the activities of these facilities is set requirements that must be fulfilled during operation.

The requirements of Good Manufacturing Practices “GMP”:

Taking into account and assuring the adoption of all requirements of quality as the temperature, relative humidity, to be applied during all phases of food handling.

Safe Food:

Food that is free from duties and characterized by not contaminated with pathogenic micro-organisms or their toxins which secreted by it, and free from insects or their parts, and reserved all sensory attributes with complete nutritional value.

Food poisoning:

Illnesses case arises from consumption of contaminated food with one reasons of food poisoning (micro-organisms or their toxins – toxic heavy metals – pesticides– chemical contaminants.

Food Chain:

Group of operations that are carried food substance from the beginning of the initial receipt to final consumption, including receipt, storage, processing, cooking, service, and waste management.

HACCP “Hazard Analysis and Critical Control Points”:

System aimed to analysis of different hazard sources (biological-chemical-physical) and determined critical control points to assurance the safety of food

from the identification of the hazard sources which affect on food safety which assessed and controlled from the beginning of food chain to final consume of any food product.

Hazard source:

The existence of an unacceptable polluting source of biological nature (like the spreading of micro-organisms) or chemical nature (organic compounds or pesticides) or physical nature (foreign objects, insects or dust), that affect the food safety or cause its spoilage, or lead to toxin production in it or forming any other undesirable products.

Critical Control Point:

The point at which the hazard source whatever it is, could be controlled.

Food safety:

Food that is guaranteed not to cause any harm to the consumer on preparation or consumption for the purpose it is intended for.

Food Acceptability:

Ensure that the food is acceptable for human consumption according to the intended use of different respects.

Cleanliness:

Removal of unwanted waste or objects such as dust, food remains, dirt, grease or any other foul thing.

Contamination:

The subjecting of food products or their surrounding environment to the various contaminants.

Contaminants:

Any foreign objects not added to the food intentionally (biological, chemical or physical), but is transferred to it through the surrounding environment, therefore



negatively affected its safety or validity.

The contaminants are classified to physical, chemical and biological

1- Physical Contaminants: strange objects can be distinguished by touch or view, and are often non-food items such as metal-cutting, glass, sand, dust, and insects or parts thereof.

2- Chemical Contaminants: there are chemical substances presented in foods such as mycotoxins produced by certain types of fungi in food at the appropriate environmental conditions, traces of insecticides and fertilizers, toxic heavy metals such as lead, cadmium, mercury, food additives such as preservatives, antioxidants, artificial flavors as well as sweeteners and coloring agents(exceed permissible limit), detergents, chemical, disinfectants, residues of veterinary drugs used in the treatment of animals and radioactive materials.

3- Biological Contaminants: microbes, whether pathogens, those causing food poisoning with all types, or causing damage or spoilage of food.

Sterilization:

Treatment of a substance in a way to eliminate all micro-organisms (microbes) that are contaminating it. Sterilization is done through thermal treatment or one of the other sterilization methods.

Disinfection:

Reducing the number of micro-organisms existing in the environment surrounding food to the safe level, which does not affect food safety or validity, using approved chemicals or authorized use of physical methods.

Disinfectants:

Chemicals used to eradicate microbes. Disinfectants do not kill the microbes at once but need time to bear track in killing microbes. This is known as the time-bound contact (Contact time). The effect of the disinfectants is depending on the type, concentration, and contact time.

Disease:

Deviation from the usual condition of the body. It shows the deviation in the

form of a change in the installation or nature of the body or function in one of its organs and often gives deviation signs or changes called medical symptoms of the disease.

Infection:

Microbes attacking the body and grow in/on it and discharging poisons inside, resulting in the show diseases symptoms.

Fixtures:

Means equipment, machinery, tools and utensils used in food handling within the food establishment.

Label:

Any code or area or anything image or descriptive, whether written or printed or milestone bold supplement food receptacle or continued or accompanying him.

Packaging:

Any form protects and contains food for sale as a single independent, whether open or closed.

The validity period:

The time period in which a product qualities remain until the end of palatable and acceptable and viable for marketing, under the specific circumstances of the mobilization, transport and storage.

Production date:

The date from which beginning the displaying and handling of food in the food outlets.

Expiration Date:

The date that defines the end of the validity under the specific circumstances of the mobilization, transport and storage of food items and what after that date article of food become unfit for displaying and marketing and human consumption.



Batch / Lot:

The entire quantity of one type of goods, that is formulated in one time.

Packaging:

The constituent parts of the batch or lot.

Initial sample:

A small quantity of the goods taken randomly with known quantities to represent the lot.

Composite sample:

A sample resulting from mix of a number of initial samples.

Quality sample:

Part of the composite sample after mingle and mixing well and ensure homogeneity, then summed up in size for examination and analysis.

Similar sample:

A sample reserved with both the responsible for the commodity, and the person who withdrew the sample, monitoring withdrawing the same procedures for the original sample, at the same time, and under the same circumstances.

Complementary sample:

A sample re-taken from the same goods in the same way.

Operational lot/ Batch "Duration":

Total packets containing the same type, manufactured in a specific time and batch production of one.

Store:

A separate building or supplement in any organized food premises (factories, distribution centers or various shops) devoted to the storage and archiving of

foodstuffs for a specified period of time under specific conditions until marketed.

Room temperature:

Means temperature ranging between 25°C - 30°C.

Refrigerated store:

A warehouse to store sensitive foodstuff (damaged quickly) at a temperature range between 0°C and 4.5°C.

Freeze warehouse:

A warehouse to store frozen food at a temperature of not more than -18 °C.

Transport means:

Any trucks, containers or tanks used in the transportation and handling of food either at regular temperature or refrigerated or frozen.

License:

A document issued by the municipality with operating permit and work (activity) in food establishments after fulfilling all the requirements. The license shall be for a specific time period necessary to renewal thereafter.

SECOND GROUP: SPECIAL DEFINITIONS

Shops:

Licensed facilities that are established for a defined activity and provide its services to citizens.

Factory:

A facility specialized in production of definite goods and licensed for such production and situated in an industrial zone or other locations defined by the local honesties, municipalities and cities. These facilities include buildings, equipment, transportation aids, stores, internal facilities, and occupational safety and health appliances. The concerned authorities are usually make sure of compliance of these facilities to the requirements special to them before licensing them for activities.



Plant:

A place specialized in production of definite goods and licensed for such production and provided with necessary equipment and fulfilling all sanitary requirements as well as safety provisions. Often, the production capacity of such plants are relatively limited compared to factories as well as the number of items produced. Examples of which are plants producing pickles, meat burger, minced meat (Kofta), Basturma, Murtadella, packing honey, sausages, sweets, etc.

Slaughterhouse:

Installation that are approved and certified by the competent authorities used to slaughter animals according to the Islamic Sharia and preparing them for human consumption so as to remove the skin and internal organs and preparation process may be include removing the head and splitting the carcasses into two from the back.

Fresh meat:

Sum of voluntary and involuntary muscles of livestock such as cows and sheep, camels and goats, He-goat slaughtered and processed an abattoir regular and runs all natural attributes.

Chilled meats:

Meat preserved by cooling at a temperature less than zero Celsius for period not less than ten days in accordance with the technically approved methods, to be displayed for sale in the form of large pieces each of not less than one quarter of an animal, and every piece to be packaged with the White clean gauze.

Haniz and Mendy:

Al-houdermi Haniz result from cooking local (Baladi) He-goats, but Saudi Mendy result from cooking Najd sheep using El-Tanour (special enlightenment).

Poultry:

Means broilers from both sexes especially raised for meat production.

Minced poultry meat:

Result from mincing fresh chicken meat devoid of bones, skin or any extraneous material

Desserts:

Food products containing mainly sugar entering in addition to a wide range of other materials vary according to type of sweets and might be thermally treated in some cooking items.

Sweets are classified into the following groups:

A. Pastries - which is the basic ingredient flour in addition to other ingredients such as sugar, eggs, milk and fatty substances and filed lifted chemically to produce dough delicacies such as cakes, biscuits, tea bread and tarts, gateaux (plain, filled, covered and uncovered)

B. Food group, which have sugar as the main ingredient, in addition to other materials of animal or plant or industrial purpose of giving the final product qualities characteristic of the type of candy in terms of color, taste and smell, consistency and appearance will be cooking up some of these components with high temperature, such as:

1-Eastern sweets.

2-delicacies such as foreign pop Karamile, Bastilia, Fondue, Toffy and Nougats.

3-sweets that come in the cocoa industry such as chocolate.

Fresh milk:

Means the natural secretion of lactate endocrine glands as an output of milking of mammalian livestock from one type and mixed well during the breastfeeding period and after the ending of colostrums period.

Iced food products:

Sweetened products that are prepared by freezing during the stirring of a pasteurized mixture of fat emulsifier and protein with other ingredients and materials; or from a mixture of water and sugars with other materials. These products are prepared for storage, selling and consumption in their frozen or semi-frozen state, and they are classified into:



1-Ice Creams: Products prepared by freezing during the stirring of a pasteurized mixture of milk and cream, and one or more sugar products. One or more milk products may also be used (butter, concentrated milk, sweetened or unsweetened condensed milk, dried milk, dried yogurt, etc.). Natural flavor enhancing food products may also be added.

2-Fruit Ice drink: A product prepared by freezing during the stirring of a pasteurized mixture consisting of one or more fruit products with milk or a milk product along with one or more sugar products.

5-Water Ices: Products prepared by freezing during the stirring of a pasteurized mixture consisting of one or more fruit products with one or more sugar products.

Fish:

Product of sea fishing (territorial or overseas waters outside the territorial boundaries of the Kingdom of Saudi Arabia) or from fish farms whether fresh (Saved cooled), or frozen.

Mollusks:

Includes dual mollusks such as (mussels, shellfish and oysters) mollusks of the solid crust or soft crust or pivotal shape stored by cooling.

Crustaceans:

Such as shrimp (prawns) and lobster or lobster or spiny lobster, crap and estakozza where the tail part only eaten from it.

Oils:

Group of organic compounds which are virtually insoluble in water and not mixed with it and dissolves into organic solvents only.

Crude oils:

Oils extracted through either branding or organic solvent from plant sources. Crude oil is not suitable for human consumption unless it undergo additional series of transactions, except in olive oil and sesame.

Nutritional oils:

Crude oils after all stages of refinement and fit for human consumption and bottled in different packages.

Refining:

A group of operations conducted on crude oils which unfit in this case after it is extracted, proposed to converted it to nutritional oil fit for use including:

Acidity Equalization (Saponining):

Disposal of free fatty acids in oil converted into soap using alkaline materials.

Whitening:

Getting rid of the dark color of the crude oil resulted from organic compounds and plant pigments using adsorbing materials such as soil sorption bleaches.

Remove waxes:

Getting rid of the waxes which are not oil components of remaining following the two phases of the acidity equalization and bleaching aiming to get rid of compounds with high melting degree, which cause turbidity of oil when subjected to low temperatures.

Sensory investigation of food:

Food inspection using natural human senses without the use of any equipment or tool or assisted aids such as with eyes or smell or taste or touch.



CHAPTER TWO IMPORTANT INFORMATION ON FOOD

It is a must to be fully knowledgeable of some essential considerations relevant to food such as Food Spoilage, and cases in which strictly prohibits the handling of food, harmful food to health, and general requirements for food premises handling and circulation.

FIRST: SPOILED OR DAMAGED FOOD:

Food is spoiled in the following circumstances:

- 1- If changing the structure or changed the sensory attributes (color, smell, feel, strength, or taste).
- 2- If the results of a laboratory test proved its non-validity.

Spoilage or damage of food occurs as a result of one or more of the following factors:

- a - conservation or storage temperature and relative humidity are unsuitable.
- b - lack of adequate ventilation in food stores.

The two previous factors may create appropriate conditions for the growth and multiplication of microbes in food or promote chemical reactions to food.

- 3- If the validity of food is over due to expiry date written on the label of food material.
- 4- if food contains insects, or parts of insects there of or animal wastes or residues of any kind.

SECOND: CONDITIONS NECESSITATE PREVENTION OF FOOD HANDLING

It is strictly forbidden to handle food in the following circumstances:

- 1- if it is unfit for human consumption.
- 2- If it is adulterated.
- 3- If it is of unidentified source.
- 4- if not in conformity with the standard specifications of assessments.

THIRD: CONDITIONS CONSIDERED FOOD UNFIT FOR HUMAN CONSUMPTION

- 1- If it is harmful to health.
- 2- If it is damage or spoilage.

FOURTH: FOOD HARMFUL TO HEALTH

Food is harmful to health in the following cases:

- 1- If contaminated with microbes that may cause the disease to humans.
- 2- If it contains any toxic substance harmful to humans.
- 3- If handled by a sick person (or holder of one germ) infectious diseases may be transmitted to humans through food or drink.
- 4- If the result of a sick animal with one zoonotic diseases which transmitted to humans.
- 5- If it result from a dead animal.
- 6- if mixed with dust and impurities with percentage more than the sited permissible limits.
- 7- If they contain colored or preserving materials, or any other materials of prohibited use.
- 8- if they contain or preserving materials, or any other materials permitted in the legislation and the standard specifications of assessments, but with concentrations higher than stipulated.
- 9- if they contain packaging or packing materials harmful to health.

FIFTH: CASES OF FOOD ADULTERATION:

Food is adulterated in the following cases:

- 1- if mixed or combined by other material that would change the nature or the quality or nutritional value.
- 2- whether partially or totally replaced any of the material entering the structure of it by one or other materials less in quality.
- 3- whether wholly or partially removed of one of its elements affecting the quality.
- 4- if there is deliberately to conceal damage or spoilage in any way.
- 5- if it contains colored materials or preserving materials or any other additions not mentioned in the specifications and the existing legislation.
- 6- if not in conformity with specifications and the existing legislation.
- 7- If installed in partially or wholly any raw material of animal or plant spoiled



- or damaged or resulting from a sick or dead animal.
- 8- If the data recorded on the packaging fact form contravene installed leading to deceive consumers or health damage done.
- 9-Fraud is detrimental to health if the materials were adulterated or used in fraud harmful to human health.

SIXTH: CONFORMING WITH SANITARY REQUIREMENTS FOR FOOD HANDLING PLACES

All places prepared for handling of food must be fully meet all requirements of health, which include:

- 1- displaying the food in licensed premises only.
- 2- To ensure that all food items are far from exposure to flies, insects, rodents and other environmental pollutants such as smoke and dust.
- 3- Observance of the rules of general hygiene and health in a way manufacture and storage of food at all stages of food handling.
- 4-storage on the ground using lists of high surface for easy cleaning underneath and to prevent the accumulation of pollutants.
- 5-retaining container properly equipped cover tightly shut-down collection of waste and residues on the cover is of the type that opens feet to prevent contamination of hands. Taking into account the empty container aphid.
- 6-Ensure that all containers, tools and operating tables and surfaces clean and healthy always in a good washing with water and a disinfectant or Abstergent materials, and drying after each use.
- 7-saving conservation and clean tools in clean place dedicated for this purpose is not used for any other purpose.
- 8-use cups made of paper only once or glass and prevent other than of them.
- 9-use paper towels to dry hands and equipment and prevent the use cloth towels.
- 10- All places prepared for the food handling must be free of toxic materials, detergents and disinfectants.
- 11-get all the food currency valid health certificates.
- 12-personal hygiene of employees and personal appearance and behavior as well as following of the rules of health in handling food is the responsibility of a business owner or manager in charge.

CHAPTER THREE INSPECTION OF FOOD ESTABLISHMENTS

Introduction

One of the most important functions of the Sanitarian is the oversight or inspection of different food establishments located in his circle of competence. These installations are either shops offering food services to consumers, such as restaurants and cafeterias... etc. or sell foodstuffs, or plants for food and water preparation regardless of its activities, or warehouses of food and means of transportation, or shops provide non-food items but are directly linked to the health and safety of citizens, such as shops selling ornamental birds and hairdressing salons, clothing laundries.

The Sanitarian must be enough acquainted with scientific methods should scrupulously followed and attention during the practice of health controls on those facilities, so apply a single standard consistent and accurate without any abuse, bearing in mind that the primary goal of health surveillance of food establishments is to maintain citizens health and the production of healthy, safe food to spare citizens of any health problems or illness result from consumption of contaminated food or not in conformity with the specifications and health standards in place.

Also the Sanitarian should be fully aware of the health regulations for the various activities of the censorship, and bearing in mind that the list of the establishment had included two basic requirements:

- 1- General requirements.
- 2- Specific requirements.

General requirements:

A group of requirements whereby a business owner got a license to operate the business and practice to be ready for operation. These requirements include the following items:

- 1-location and size.



2-building, including the type of building-design, rules-quality materials used in construction and finishes and paints - internal and external.

3-handling sites, such as flooring, walls, ceilings and corners they relate to each other and specification - windows and doors (location and specifications).

4-utilities and services, including water resource requirements-requirements of sewage-wiring and specifications and requirements-lighting, ventilation and toilets, hand washbasins and bathing places and changing rooms for employees and saving waste collection and materials which not valid.

5-sections of food establishments.

6-equipment such as tools, utensils and equipments used in the establishment.

Special Requirements:

A set of controls that must be fulfilled in food establishments or that related to public health during operation and production including:

1-raw material requirements.

2-processing steps and the preparations.

3-the final product.

4-storage requirements within the store attached to food establishments.

5- general hygiene rules.

6-licensing.

7-registry for health controls.

8-health requirements for employees of food establishments including:

a- certificate of health and medical examinations required for done-diseases that must be employed to immunization of employees against it- the validity of the certificate-health.

b-health requirements for employees such as free from infectious diseases and opportunistic infections.

c-Personal Conduct (appearance and personal hygiene).

d-training for health affairs.

e-special precautions for visitors.

Inspection form for food establishments:

The Sanitarian is using a special Form during his oversight inspection of the food establishments, which have been designed to suit the different types of activities of the inspected food establishments. This form contains all the items of general and special requirements that must be available in the establishment, will be inspected by the Sanitarian.

Instructions to the sanitarian on filling the inspection form:

1- building.

2-foodstuffs.

3- general hygiene.

4- the area surrounding establishment.

5- sterilized tools (for barber shops).

6- employees.

Following are the points that the Sanitarian must take into account for monitoring or inspection for each of the preceding items.

1. The Building:

- Ceilings and walls:

1-quality paint with no cracks and no falling.

2-free from grooves and potholes.

3-sure that the wall of the toilets, laundries, places of processing and preparation fully coated with glazed tiles or ceramics.

4-rounded or inclination angles of the walls especially where connected to floors and ceilings.

- Floor:

1-Free from the fissures and potholes.

2-Evenness (balanced) and the light inclination toward drainage openings.

3-a sink for water discharge.

4-absence of stagnant water out.

5-rounded or inclination contact angles with walls.



- Preparation and processing places:

- First: Utilities:

The same points previously mentioned in addition to the following:

- 1-Free from insect and rodent infestation and its effects.
- 2-Free from odors, fumes and pollution sources.

- Second: equipment, tools and utensils (equipment):

- 1- validity of the use and free from rust and corrosion.
- 2- make sure that they are made of metals and non-rusting.
- 3- cleaning equipment, tools and utensils used.
- 4- efficacy of washing process by proper and correct recommended method.
- 5- stored in cabinets or on shelves court clean away from sources of pollution.
- 6- excluding unused equipment, tools and utensils.

Water resource:

- 1- safety of the water source.
- 2- cleaner ground water reservoir and the distance between it and the draining reservoir (Biarah).
- 3- matching general requirements for the upper reservoirs.
- 4- matching network of water and materials manufactured to the requirements of health.
- 5- The presence of a sufficient number of water fountains that operate efficiently.
- 6- Validity of water for drinking.

Drainage:

- 1- usual method of drainage (public network- drainage tank "Biarah√").
- 2- matching drainage Reservoir (Albiyareh) for the requirements.
- 3- lack of a sewage tank below the ground or shop premises.
- 4- lack of toilets fittings or connections inside the facility.

- 5- absence of a leak in the fittings and connections.
- 6- The absence of the sewage overflow.
- 7- lack of inspection rooms or sinks openings directly in front of the one of the facility doors.
- 8- maintenance of sanitary sewage facilities.

Toilets and hand washbasins:

- 1- The presence of a sufficient number of toilets and hand washing facilities to work.
- 2- Clean toilets and hand washbasins.
- 3- Good ventilation and sufficient lighting.
- 4- Availability of disinfectants and detergents.
- 5- Provide paper napkin and equipment for drying hands.
- 6- The presence of waste container.
- 7- Provide hot and cold water.

Ventilation:

- 1- efficient artificial ventilation equipment such as electric fans and exhaust fans.
- 2- efficient air conditioning work in air-conditioned places.
- 3- cover all natural ventilation openings (windows) with screens to prevent the entry of insects and rodents.
- 4- clean natural and artificial ventilation openings.

Lighting:

- 1- Adequate lighting natural or artificial.
- 2- Protection for lighting lamps or torches.
- 3- Suitability of all lighting units place.

Stores:

A-Food stores:

- 1- clean warehouse.
- 2- The warehouse is free from insect and rodent infestation and their tracings.



- 3- availability of storage aids such as shelving, etc.
- 4- arrange of food inside the warehouse.
- 5- The warehouse is free from the effects of humidity and from any of its sources.
- 6- to ensure that hazardous materials such as detergents, disinfectants and cleaning tools, pesticides stored in a separate section, far from foodstuffs.
- 7- the warehouse temperature does not rise above 25- 30°C.

B-Refrigerator:

- 1- Efficiency for work of all refrigerators.
- 2- the refrigerator inside temperature does not rise above:
4°C for cooling refrigerators.
-18 °C, for freezing refrigerators.
- 3- Unloaded with more than its standard storage capacity.
- 4- Provision of temperature measuring devices (Thermometer).
- 5- arranging refrigerated stored food properly and well prevent contamination, damage or spoilage.
- 6- Damaged or spoiled or unfit must not be present inside refrigerators.
- 7- Cooked food must not be present together or vicinity with fresh food.

2. Foodstuffs:

Raw materials:

- 1- Free from signs of damage and spoilage and retaining all the natural characteristics.
- 2- Remoteness from insect and rodent infestation.
- 3- Non-expired (be ascertained by reference to the dates of production and expiry dates on the packaging code and packing).
- 4- Stored by correct methods at appropriate temperature for each type.
- 5- Make sure that the fresh meat slaughtered in an approved abattoir.
- 6- Separation between types of fresh food in one storage space to prevent cross contamination.
- 7- Follow the right method in the thawing frozen foodstuffs (inside cooling

refrigerators).

- 8- Not to refreeze any food items already thawed.
- 9- Validity of all food additives and conform to the specifications, free of signs of damage, spoilage and retaining all the natural attributes.

Processing and manufacturing:

- 1- A screening process to exclude damaged and spoiled.
- 2- Precision washing operations especially for vegetables and fruits.
- 3- Matching tools, equipment and utensils processing and manufacturing of health requirements in terms of:
 - Knives' handles (of plastic and not wood).
 - Cleaning.
 - Disinfection and sterilization.
 - Non-use of wooden surfaces in the preparation and processing.

Final processing (cooking and heat treatment):

- 1- Assurance of the quality and accuracy of cooking processes and the temperature of the internal portion of not less than (64°C).
- 2- Keeping all cooked foods that provide heated at a temperature of not less than (64°C).
- 3- Keeping all food provided refrigerated at a temperature not exceeding (4°C).
- 4- Heating cooked food that preserved cooled to a temperature higher than (64°C).
- 5- Non-use of tools and utensils used in the handling of fresh food in handling cooked foods.
- 6- Cover all cooked food.
- 7- Cooked food from the previous day must not be present.

The final product:

- 1- Conformity with specifications.
- 2- free from signs of damage, spoilage and maintaining all natural and chemical characteristics.



- 3- keeping each product at the appropriate temperature in all phases of handling.
- 4- Keep the final product away from exposure to flies, insects and rodents.
- 5- matching of the product's packages and covers with the requirements and specifications.
- 6- existence of label statement conforming with specifications, written in Arabic with the clarity of written statements and clear visibility with no removing or erasures and free from pigsties.

3. General cleanliness (hygiene):

- 1- clean walls, floors and ceilings.
- 2- clean place around the establishment.
- 3- waste disposal and residues in a sound and correct manner.
- 4- provide posters guiding on the rules of general hygiene.
- 5- cleaning tools, equipment and utensils.
- 6- clean refrigerators and warehouses thereto.
- 7- There are no insects at place location.

4. The Area surrounding the establishment:

- 1- Clean area and the absence of wastes or accumulated residues.
- 2- The area is free of insect and rodent infestation.
- 3- lack of stagnant sewage water.
- 4- The absence of dust accumulated transferred by wind into the establishment.

5. Sterilization of tools (special to Barber shops):

- 1- Availability of equipment and materials for disinfection and sterilization.
- 2- Accuracy of the sterilization processes.
- 3- Sterilization of the holder of the shaving blades and using disposable blades(only one use).
- 4- Cleaning, washing, disinfection and sterilization of the shaving and drying towels.

6. Employees:

Certificates of health and the health of employees:

- 1- Presence of a valid health certificates for all employees.
- 2- Ensure that all employees in good health and that they do not have any infectious diseases and do not show any symptoms of infection.
- 3- Make sure that employees do not have diarrhea (note the number of times the employee go to the toilet).
- 4- Make sure that there is any disease or rashes or scars or festering wounds and pus.

Employees cleanliness and wear uniforms:

- 1- employees to wear clean uniforms.
- 2- wear head cover in places of preparations.
- 3- wearing glove during food preparation.
- 4- wearing mask to cover the nose and mouth in the preparation, processing areas.
- 5- clean and cut nails.
- 6- clean and trim hairs.
- 7- not wearing personal accessories such as jewelry, watches, rings and pins during food processing.
- 8- clean places to change clothes of employees and cabinets keeping clothing.

Personal behavior:

- 1- Not eating or drinking in the workplace.
- 2- Not spitting or sneezing.
- 3- Non-smoking.
- 4- Wash hands thoroughly after getting out of the toilets.
- 5- Cover surface wounds in hands of employees by waterproof medical adhesive tape and wear with the gloves.

FORM THE INSPECTION OF FOOD ESTABLISHMENTS:

Assessing items of inspection or oversight:

When assessing previous items of inspection which present in inspection form, he must review special points in every items contained in the inspection form,



review points for each item. He can also use the requirements of existing Regulation on the activity established under inspection. Tick (√) in front of the choice, which shows anyone wants the item, and therefore as follows:

- A- If all requirements of the list for one of the inspected items are satisfactory, the sign must be put in a satisfactory field but not in any other field.
- B- If some requirements are not met for this item the sign must be placed in the unsatisfactory field.
- C- As a complement to step (B), if all the unsatisfactory requirements are uncritical requirements, the other sign (√) be put in uncritical field. But if one of the requirements did not meet or some or all are critical, the other sign must be put in critical field.
- D – All steps, from A to C must be applied for all inspected items existing in the inspection form.

Items that represent sources of risk:

You, my brother Sanitarian, should take into consideration that some inspection items represent sources of risk (according to the pamphlet on hazard analysis and critical control points "HACCP"). In case of presence of violation for only one paragraph of an inspection item, representing a source of risk and require the signing of the penalty, it is considered contrary to the whole item. In the following Displaying the inspection items under each of the general requirements, special requirements, and requirements for employees; with reference to the items that are representing sources of risk.

First: general requirements:

- 1- The surrounding area to the establishment is free of debris, dirt, insects and stagnant water.
- 2- Ceilings and walls are conformed with the licensing requirements. (hazard source)
- 3- Floors and its conformity with the licensing requirements.
- 4- Water resource and the extent to which the ground or upper reservoir are conformed with the requirements. (hazard source)
- 5- Drainage which includes internal sewerage - drainage tank (Albiyareh).

- (hazard source)
- 6- toilets and hand washbasins and furnishings. (hazard source)
- 7- Ventilation in terms of type and adequacy.
- 8- lighting in terms of type, intensity and specifications.
- 9- Breeding places of insects and rodents inside establishment. (hazard source).
- 10- Operating, processing and preparation places. (hazard source)
- 11- stores and its conformity with the licensing requirements. (hazard source)

Second: special requirements:

- 1- Foodstuffs requirements:
 - a- raw materials in terms of specifications and characteristics and validity. (hazard source)
 - b- preparation processes, processing and preparation. (hazard source)
 - c- efficiency of thermal treatment (heating or cooling) in terms of temperature or duration. (CCP critical control point)
 - d- food additives and their conformity with the specifications, characteristics and validity. (hazard source)
 - e- use frozen materials in terms of how to conduct the process of thawing prelude to the use and re-freeze. (hazard source)
 - f- display and sale and serving foodstuffs. (hazard source)
 - g- storage in stores attached to food establishments. (hazard source)
- 2- Extent of application of the rules of general hygiene. (hazard source)
- 3- over application of the plan of operation and regular maintenance for establishment, its equipments and its facilities. (hazard source)
- 4- Compliance with the placement of the license.

Third: requirements for employees:

- 1- health and safety of employees. (hazard source)
- 2- health certifications.
- 3- viability of health certifications.
- 4- illness cases or injury of employee. (hazard source)



5- appearance and behavior of employees and their personal hygiene. (hazard source)

Instructions to the Sanitarian on filling the inspection form:

- 1- You must, my brother Sanitarian, to fill the inspection form for the food establishments thoroughly and carefully during the inspection process first by first.
- 2- Not filling any data on securities and any papers other than form or depending on the memory until return to your office.
- 3- Filling basic data in the form immediately after entrance the establishment, such as determining the type of control, date, time - and your name, job and the name of the authority which working in it, and the name of the establishment, and the type of activity, and the name of the owner or manager in charge, and license data such as its number and date.
- 4- Summoning the establishment owner or manager responsible to be present during the performance of your supervisory inside its establishment.
- 5- practice their oversight work inside establishment according to arrangement of present items listed in the form.
- 6- Determine the final result of the inspection and the type of irregularities, if present.
- 7- Identify the type of necessary actions in accordance with the legislation of sanctions (financial procedures or administrative proceedings) and scored the Form with the number of item in legislation of sanctions.
- 8- Carefully define procedure/s, which you will take to the offense or offenses and determine the kind and quantity of violating Article scrupulously, size or number or weight (in kilograms).
- 9- Edit records for violations depending on the type, as well as identify the type of action or actions taken by proofs with the need for the type of record (sampling record or violation record), number and date of this sector in the field on the form.
- 10- Writing your recommendations and observations in the prepared field for this purpose in form, in order to compare with the following inspection.
- 11- After writing all fields, hand it. After finishing your daily your daily assigned

plan, to the section of the secretarial registration to store the content in the file created on a computer control system.

- 12- Extract a copy of the form before re-established inspection over the same establishment according to the municipality plan in order to remember what the information tells you in the following inspection, especially with regard to food irregularities and the recommendations and observations which you filled or made as well as any other official notes made in the form to know the extent of implementation.
- 13- Writing fields of the inspection registry (existing in the establishment) from the reality of what you have filled to form the summary, which you have edited.

Form used for inspecting the Foodstuff Premises

Type of inspection	<input type="checkbox"/>	periodic	<input type="checkbox"/>	surprise	<input type="checkbox"/>	Due to complaint	<input type="checkbox"/>
Inspection date / /						Hour of inspection:	
Inspector (Sanitarian) name:							
shop	<input type="checkbox"/>	Activity					
License owner	<input type="checkbox"/>	Special number					
License number	<input type="checkbox"/>	License date / /					

	fulfilled	Not fulfilled	critical	uncritical
The Building				
Ceiling and walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floors				
Preparation and processing areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sanitary sewage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
toilets and hand washbasins	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stores	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Foodstuffs				
Raw materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
processing and manufacturing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Final processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Final product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General hygiene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surrounding area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sterilization of tools (special to barber shops)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health Certificates and Employees health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employees' cleaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wear uniforms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal behavior	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Procedures According to Penalty's code	<input type="checkbox"/>	Financial	Article Number at the Code:	
	<input type="checkbox"/>	Administrative	Article Number at the Code:	
Mention:				
Procedures taken: <input type="checkbox"/> Samples number of note:				
..... <input type="checkbox"/> Penalty number of note:				
Notes and Recommendations for the coming inspection:				
Sanitarian Signature				

**CHAPTER FOUR:
INSTRUCTIONS FOR SANITATION
INSPECTION REGISTRY**

Introduction

The record of health surveillance is of great importance for the various food establishments which contain database that can be consulted at any time; to determine the position of the establishment and their commitment to the application of the requirements of health, especially in case of food poisoning to determine liability established one or any one of employees. Therefore you must, my brother Sanitarian, give care during writing the Register from the reality of your observations According to the data recorded in inspection form of the establishment, which you have filled during your inspection within the enterprise.

Inspecting the foodstuffs:

A. Acting upon the discovery of the offense:

In the case of a violation of particular foodstuffs you must, my brother Sanitarian, the type of conduct which fits the nature of the offense, which will be one or more of the following:

1- sampling withdrawal:

Withdrawn of food samples suspected of damage or spoiled or adulterated or harmful to health and sent to laboratory.

2- reservation:

Reservation of all food items contained the former pending receipt according to the result of laboratory sample analysis.

3- Destruction:

You have, brother Sanitarian, the power to destroy food in the following cases:

- Cooked food from of the previous day.
- Hot drinks prepared from hot water directly from water heater without the use of filter purification.
- Cooked food exposed to flies and insects.



- Cooked food stored in the same place with the raw materials.
- Food must be stored or reserved by cooling at a temperature of (4 °C) and found at the normal room temperature (25 °C - 30 °C).
- Cooked food found at the normal room temperature (25 °C) for more than two hours.
- The presence of prepared fresh juice in large quantities stored in cooling units.

B. Act Upon receipt result of the laboratory analysis of samples:

1- If the samples are fit for human consumption:

If the result of analysis of food samples received from the laboratory, indicated that the samples are fit for human consumption, you must move immediately to the establishment, raise the reservation on product or commodity or article of food after assuring conformance in terms of kind and quantity.

2- If the samples are unfit for human consumption:

If the results of the analysis indicated that samples unfit for human consumption, you have to perform the following:

- a- record: Edit an offense contrary to the form prepared for this purpose.
- b- Edit record confiscation of the goods or articles previously reserved by you, after assuring the conformance to reserved for the record that you edited a reservation first.
- c- confiscation of the goods or be the subject of infringing article for damage manner commensurate with the kind and nature of article with the writing of record destruction.

Writing notes in the health inspection record:

In all previous procedures you must, my brother Sanitarian, to write in the archive of health inspection (in the model archive of violations and penalties and conducts before the end of this chapter) the following:

- 1- type or types of materials subject of the offense.
- 2- quantity article scrupulously size or number or weight.
- 3- reasons to believe that your offense, which you took to act on the basis of or previous conduct.

- 4- the results of laboratory analysis of samples with a proposal of sanction financial and / or appropriate administrative, out of the list of sanctions.

Remember Brother Sanitarian:

- 1 – You have the authority for financial and / or management sanction after adoption of your boss, so do not exceed your authority unless given such authority.
- 2 – Your authority to take action commensurate with the type of violation is only for one of the actions described above.



**Kingdom of Saudi Arabia
Ministry of Municipality and Provincial Affairs**

Form Number:
Date:

Sample Analysis Form

Location: water sample

food sample

Sample number	Date Sample Taken	Sample type	Sample Quantity	Sample Source	Sample Nature	Sample Temp. when taken	Place Sample taken	Distance between Sampling location and Pollution Source	Type and distance of pollution source from sampling location	Condition of Source of sampling	Name of Agency sending the sample
				well	surface water				Bayara and its distance	uncovered	
				tank	underground water				Chemicals and its distance other	tightly sealed	
				water container	rains water					liable for pollution	
				network rain	healthy water other						

DATA RELEVANT TO SAMPLE ANALYSIS

Type of Analysis Required: Chemical Bacteriological Chemical and Bacteriological Chlorine-treated Sample: Yes NO
 Change of appearance of water sample after Sampling: Yes NO Percent remaining Chlorine: ppm

Reason for Sending the Sample

.....
 Responsible on Sample Taking: Municipality / Integration Head
 Name:
 Signature:

Notes: - if the required analysis for a water sample, all fields in the form must be filled
 - if the required analysis for a food sample, the fields must be filled are: Sample number, Date sample taken, Sample type, Sample Quantity, Place Sample taken, Agency sending the sample, and Reason for Sending the Sample

Record of Infringements and Penalties

Facility/ Shop: License number: Visiting Date: / / 14 H
 Inspection type: Periodic Investigating a Complaint Follow up Other:

infringement	Penalties financial Administrative	I n f r i n g e m e n t s			Reasons	Results of Analysis	
		Disposal	Type	Quantity Volume Weight Number		Conformed	Non-conformed

Details of Infringements and notes

1.
2.
3.
4.
5.
6.
7.

Name of Inspector:

Occupation:

Signature:



**Kingdom of Saudi Arabia
Ministry of Municipality and Provincial Affairs
Infringement Record**

location Reserved Re-capture Destruction
 License owner: Shop name: Activity:
 District: Address: License number:
 Inspection Date:
 Time:

No.	RESERVED GOODS				Total Quantity Present			Total Quantity reserved			Procedure Taken
	Type	Commercial Sign	Purchase Date	Expiry Date	number	kilogram	Cartons	number	kilogram	Cartons	

I declare, the below signed, that the data mentioned in this record are Wright and I promise to not to move the remaining parts of the goods that have been sampled till the Sanitarian allocated by the Municipality will give his decision. Till then, the goods will be reserved/ kept at:

Name:
 Address:
 ID: Passport number:
 Residency Permit: No. Date:
 Name: By:
 Signature: Date:

Responsible on Inspection:
 Name: Occupation:
 Signature: Date:
 The Reserved Goods were returned at: / / 14 H, and it has been shown that:
 Validity of Goods, and therefore
 Non-validity of Goods, and therefore
 Record of Reserved ; Re-capture; or Destruction number Dated / / 14 H
 Relevant persons License owner Control Sanitarian in charge
 Name
 Signature

**CHAPTER FIVE:
FOOD POISONING**

Introduction

Upon the occurrence of food poisoning as a result of consumption of a food stuff, the person responsible for health inspection will start performing examination and investigation to find out the causes of poisoning. This will include the step of sending samples of the suspected food to the laboratory for analysis, as well as examination of employees who prepared or provided such food, the place of preparation or serving..... etc

Role of whom Performing Sanitation Inspection in Examining and Investigating the Reasons of Food Poisoning

Upon receipt of a notification of case of food poisoning result of the food items that you, my brother Sanitarian, exit with the epidemiological survey to the site and if that Standing Committee on the existing inspection process that will include:

- 1- Hold on the leftovers of the existing food residues or debris or drink, with the necessary sampling and sent immediately to a laboratory for chemical and microbiological analysis.
- 2- Perform sampling of all raw materials, which processed the food from it or drink and sent for analysis (responsibility of the Tripartite Commission).
- 3- Examine all employees to make sure they are free from the wounds and sores and any Pimples in skin.
- 4- Refer the suspected employees in establishment who ill with infectious disease for the clinic examination to the nearest health center or hospital.
- 5- Make sure that all employees have valid health certificates.
- 6- Make sure personal cleanliness of employees (i.e. the cleanliness of their bodies and their clothes) and the clean and polished nails and clean cut hairs.
- 7-check the place to make sure that it meet all requirements of health the failure to meet leading to a significant health risk in establishment, and incomplete meet lead to an update of contamination to food.

A- The presence of a significant health risk, because of failure to meet the requirements of health, is to:



- The existence of drainage reservoir (Bayara) or aperture relates directly beneath the floor of the place.
- The presence of the pillars of the fall or sanitary sewage connections or fittings of the toilets inside the place.
- The presence of the drainage sewage cup from the reservoir (Albiyareh), up to the preparation and processing places or stores.

B- Contamination of food due to incomplete meet to health requirements, such as:

- 1- Use raw materials damaged or spoiled or unfit for human consumption.
- 2- The presence of cooked food from a previous day.
- 3- The presence of food or raw materials placed directly on the ground with the squalor of the earth.
- 4- Use table used for meat and chickens chopping in the preparation and processing of the Salads.
- 5- Use of the Mayonnaise who produced in shop.
- 6- Use of meat or chicken re-frozen after thawing.
- 7- Prepare large quantities of fresh juice and using it for long periods.
- 8- The presence of leaks in pipes or fall drainage sewerage connections in skylight place neighbor to places of operation and stores.
- 9- Contamination of water from water resource and ground or overtop tanks and not maintaining these reservoirs and not caring clean and disinfected.
- 10- employees are sick or wounded festering or diarrhea.
- 11- employees did not have health certificates attesting that they are free of diseases.
- 12- displaying and serving of the food at inappropriate temperatures.
- 13- The presence of cracks in walls or floors or ceiling.
- 14- The presence of rust in used equipments, utensils and machines.
- 15- The presence of consumed or disabled refrigerators or infested with insects.
- 16- The presence of accumulated trash.
- 17- Toilets and hand washbasins are not meet to all healthy requirements, especially the lack of Siphon to expel remains or rinse water.
- 18- The absence of a disinfectant or liquid soap to wash hands of employees after getting out of the toilets.
- 19- Failure to follow the correct and proper procedures to wash hands.

- 20- Absence of proper containers for collecting waste and residues.
- 21- Not combating flies, insects and rodents in a correct manner.
- 22- The use of insecticides to control insects inside the preparation, processing area and stores.

Samples required for withdrawal in cases of food poisoning:

In case of food poisoning episode, you must, my brother Sanitarian (as already mentioned before) perform withdrawal of samples as follows:

- 1- Remains of suspect food (if any).
- 2- Raw materials used in the preparation of food or drink.
- 3- Samples of excreta of the injured personnel (while hospital-like sample of the contents of stomach, vomiting, etc.).

Then send the samples to the laboratory for analysis, with the liberalization of record sampling particular.

Instructions regarding sampling:

When sampling, the following instructions must be complied fully:

- 1- all pans and tools used in the withdrawal and transfer of the samples are clean, dry and sterile.
- 2- taking three samples; one to be sent to the laboratory and another to be reserved by the the authority responsible for sampling (Env. Health Section at the municipality) and the third given to the owner/ responsible manager in charge of the suspect establishment to be reserved.
- 3- to maintain the sample from any outside contamination or a change in the attributes and characteristics during transportation and storage until the date of examination and analysis.
- 4- send samples immediately to the competent analysis with conservation during transport away from direct light and at low temperature.
- 5- Take primary samples and then assembled together to form a composite sample, which taken from it the final sample then sent to a laboratory.
- 6- send samples receipts in the appropriate receptacles and in sufficient quantity for examination and analysis of not less than 20 cm³, and send all samples obtained immediately without delay.
- 7- codify all the necessary data on each sample with the figure of the sample code.



CHAPTER SIX: PROCEDURES FOR WITHDRAWAL OF SAMPLES

Introduction

Brother Sanitarian, in view of the great importance of the sample withdrawal issue in the detection of spoilage and damage food. As well as knowing very bad effects on health and therefore fit for human consumption or not; it is necessary to follow the procedures and techniques of scientific sampling of foodstuffs for suspicion of damage or spoilage, before the sale or serving to the consumer, to avoid injures to health for most that might arise from its consumption.

Therefore, you must comply with the following rules and technical standards:

- 1- Sampling of different food products according to various approved technical standards.
- 2- Use of the food samples sent for laboratory examination (whether chemical or bacteriological or physical) packages to maintain the same situation of the sample picture if they were presented with the display possession for sale.
- 3- Proved the technical aspects followed by the withdrawal of doing when samples, as well as how to transfer samples to the laboratory for analysis and examination, in the record to withdraw samples, which will be referred to later.

Points must be taken into consideration when sampling:

Brother Sanitarian, when a suspicion of adulteration or spoilage of food stuff which requires the withdrawal of samples and sent for laboratory examination and analysis, to confirm or deny this suspicion; you have to put the following important points in mind when doing withdraw samples:

- 1- Wash your hands well and disinfect them before withdrawing samples especially for microbiological analysis.
- 2- Try as much as possible to sampling in the original packs and send to a laboratory without opening.
- 3- In the case of large packaging, make representative sampling of randomly selected portions, taking all precautions to prevent contamination of the

- original packaging (large) at the opening of sampling.
- 4- In the case of liquid food items such as beverages and juices, shake the liquid for homogenization before withdrawing sample to ascertain the similarities.
- 5- Use suitable packages to fill appropriate samples, which vary according to the nature of food material.
- 6- Grab sterile packaging (for the withdrawal of samples for microbiological analysis) in a way that does not lead to the pollution of surface or internal guns, then open and close very quickly.
- 7- Give each sample a serial number, and put this record the figure of withdrawn samples.
- 8- During the sampling, avoid inappropriate habits to prevent contamination of samples.
- 9- Maintain as much as possible on the situation of the sample, frozen materials must be kept frozen (at a temperature of -18°C) and refrigerated must be kept at a temperature between (0 and 4°C), and samples of fixed food must be kept at a temperature not exceeding (25°C).
- 10- Send the sample to the laboratory examination and analysis competent immediately without delay, as the period of time between sampling and start screened and analyzed period is very important to prevent any changes in the characteristics and specifications of the samples, especially in the case of sensitive, rapidly damaged and spoiled food.
- 11- Codify describing the sample specifics precisely, and scored by the date and hour sampling sent to the laboratory.
- 12- In the case of food poisoning, you've samples from the remains of food and drink, so cool the quickly damaged samples (at a temperature of 4°C) if it is not refrigerated at withdrawn time.
- 13- It is a must to withdraw samples at all stages of the manufacturing in food factories.
- 14- In shops of the food preparation (such as restaurants, cafeterias and kitchens Banquets, etc.), take samples periodically from Salads and cooked foods and desserts and sent for analysis to ascertain the validity of human consumption, even in the absence of any suspicion of damage or spoilage or change their characteristics. To send specimens for laboratory refrigerated at a time no more than one hour from the time of withdrawal.



Record for withdrawal of a sample or samples of foodstuffs:

Brother Sanitarian, the record of the withdrawn suspected sample or samples of foodstuffs must include the following data:

- 1- Your name, job and work place as well as the type and purpose of inspection done by you.
- 2- The date and time of sample withdrawal with accuracy.
- 3- Address of the establishment and its activity and the name of the licensee, the license number and date.
- 4- The number of samples taken for examination and analysis.
- 5- The amount of sample, its size, number or weight with accurately.
- 6- Data code on the packaging itself or on the card statement for local and imported products.
- 7- State of foodstuff during sampling process (refrigerated - frozen-normal), with the temperature in each case.
- 8- Reasons for the withdrawal of food samples.
- 9- A brief description of the natural properties of the foodstuff and take them by organoleptic examination of foodstuff (naked eye or smell or touch or taste and extent of change is evident in those characteristics).
- 10- The extent of commitment of the establishment owner or responsible manager on conformance with the suitable requirements of storage, handling recorded on packages (if present).
- 11- A brief description of the method of sampling.
- 12- Conditions for the transfer of the sample to the Laboratory (on regular temperature or under refrigeration or freezing, with the temperature used in the transport).
- 13- Date and hour delivery of samples for laboratory examination and analysis.
- 14- Proof on source of foodstuff and purchase invoice.
- 15- Writing all previous data in a clear and acceptable way without ambiguity.

**CHAPTER SEVEN:
REQUIREMENTS FOR FOOD AND WATER
SAMPLES TRANSPORTATION FOR LABORATORY**

Requirements for sampling packages:

There must be available in the packages used in the packaging of the samples drawn from foodstuffs; for examination and chemical and microbiological analysis and any other tests, the following requirements:

- 1- Manufactured material of the packaging does not lead to any change in the natural, sensory, chemical and microbial properties of the sample.
- 2- The packaging does not allow any extraneous material would contaminate or changing samples.
- 3- Packaging used only once, with the exception of packaging glass that is washable, disinfected and sterilized before reuse.
- 4- Packaging capacity and shape commensurate with the size and weight of the sample.
- 5- Aseptic packaging be in the samples sent for microbiological analysis, and easily closed tightly to prevent contact with the external medium to ensure that there is no pollution.
- 6- Shut packages with plastic or glass or metal cover, may not use covers made of cork or rubber.

Requirements for samples transfer:

1- Cans of food samples must be transferred at the appropriate temperature for each article, and the following manner:

A- frozen food:

At a temperature of not more than -18 °C, or in an appropriate manner which preserves the sample frozen, such as the use dry ice.

B- refrigerated food:

At a temperature range between (0 and 4°C), using the ice Box.



C- regular food:

At the normal temp., to stipulate the packages and its contents not undergo any temperature more than (25-30 °C) so as not to affect the attributes and characteristics.

2- Accompanied with sample, there must be a card statement clearly written by the following data:

- a- The name and occupation of the person who withdraw the samples.
- b- Sample type and quantity exactly.
- c- The quantity taken of the sample with the original data and code given to it.
- d- Temperature of the food samples at the time of the withdrawal.
- e- Type packaging used in containing the sample.
- f- The sample taken date and time and sending date.
- g- Type testing and analysis to be undertaken.
- h- Laboratory sample sent to.
- i- Figure code for a sample. It is strictly forbidden on the health superintendent or any other person on the withdrawal of samples or erase data or remove any code on the original card on the original packaging from which the sample or the original packaging sent for examination and analysis.

3 – Samples packages should not be exposed to any mechanical shocks affecting the appearance and shape.

Keeping requirements and samples sent for laboratory:

The following table shows the types of packages appropriate for the transfer of different samples of foodstuffs, and keeping requirements and send the sample to the laboratory (including sample keeping temperature, and the maximum duration from the moment of sampling until it reaches the laboratory for examination and analysis).

The types of packages of food samples and keeping requirements and send the sample to the laboratory

Foodstuff	Packaging type	Requirements to keep and transfer samples to the Laboratory	
		Temperature	Duration
1- Meat			
A. carcasses of fresh meat	Polyethylene bags	0 – 1°C	During 3 hour
B. frozen meat:			
- Sheep and goats	Whole carcass	-18°C	Immediately
- Cows	Packed unit	-18°C	Immediately
C. Meat in parts	Original pack	- 18°C	Immediately
D. Manufactured and processed			
- Packed	Original pack	0°C	During 3 hours
- Unpacked	Polyethylene bag	0°C	During 3 hours
2- Full birds and parts and accessories			
A. Full birds (packed)	Original pack	Cooled at 0°C Frozen at -18°C	During 3 hours During 3 hours
B. Parts (unpacked)	Polyethylene bags	Cooled at 0°C Frozen at-18°C	During 3 hours During 3 hours
3- Fish			
A. Fresh	Plastic perforated contained (to ease liquid outlet) with a cover to the container	In a cooling refrigerator at 0oC or to mix fish with ice pieces	During 3 hours
B. Frozen	Original pack	Refrigerated at -18°C	Immediately
C. Dried	Original pack or polyethylene bags	Not more 25°C	Immediately
D. Smoked	Original pack	0°C	During 3 hours
E. Caviar	Original pack	25°C	During 3 hours
F. Fish products	Original pack	-18°C	During 3 hours



Foodstuff	Packaging type	Requirements to keep and transfer samples to the Laboratory	
		Temperature	Duration
4- Eggs			
A. Fresh	Original pack	Not more 5°C	During 3 hours
B. Dried	Polyethylene bags	Not more 5°C	During 3 hours
5- Bread and bakery products			
A. Unpacked	Paper bags	25°C	During 3 hours
B. Packed	Original pack	25°C	During 3 hours
C. Sensitive patisserie	Original pack or polyethylene bags	5°C	During 3 hours
D. Unpacked biscuits	Paper bags in polyethylene or carton	25°C	During 3 hours
E. Packed biscuits	Original pack	25°C	During 3 hours
6- Cereals (grains), legumes and dried vegetables			
A. Unpacked	Polyethylene bags or tightly sealed bottles	25°C	During 3 hours
B. Packed	Original pack	25°C	During 3 hours
7- Powders	Original pack	25°C	During 3 hours
8- Sugar			
A. Unpacked	Tightly sealed bottles	25°C	During 3 hours
B. Packed	Original pack	25°C	During 3 hours
9- Jam, Jelly and Marmalade			
A. packed	Original pack	25°C	During 3 hours
B. unpacked or packed in large containers	Tightly sealed sterile glass jars	25°C	During 3 hours
10- Chocolate and dried sweets			
A. Packed: coated or not	Original pack	25°C	During 3 hours
B. Unpacked			

Foodstuff	Packaging type	Requirements to keep and transfer samples to the Laboratory	
		Temperature	Duration
- Coated	Polyethylene bags	25°C	During 3 hours
- Uncoated	Wrapped in waxed paper and then polyethylene bags or carton	25°C	During 3 hours
11- Sesame sweets (Halawa Tahineya)			
A. Packed	in original containers	Not more than 25°C	During 3 hours
B. Unpacked	Coated in paper covered with aluminum foil	Not more than 25°C	During 3 hours
12- Milk and dairy products			
A. Unpacked liquid milk	Tightly sealed sterile glass containers	0°C	During 3 hours
B. Packed cheese in:			
- Small containers	In original containers	0 - 4°C	During 3 hours
- Large containers	Clean and sterile sealed plastic or glass container	0 - 4°C	During 3 hours
C. Cream, Yogurts and butter	In original containers	0 - 4°C	During 3 hours
13- Oils and lipids			
A. packed	In original containers	5°C	During 3 hours
B. Unpacked	Sterile sealed plastic or glass container	5°C	During 3 hours
14- Vegetables and fruits and their products			
A. Fresh	In Carton or plastic containers	4°C	During 3 hours
B. Dried	In Cellophane bags or in waxed paper bags	25°C	During 3 hours



Foodstuff	Packaging type	Requirements to keep and transfer samples to the Laboratory	
		Temperature	Duration
15- Carbonized beverages	In original containers	25°C	During 3 hours
16- Non-carbonized beverages and juices	In original containers	25°C	During 3 hours
17- Drinking water			
A. Packed	In original containers	25°C	During 3 hours
B. Unpacked	in tightly sealed sterile glass bottles	25°C	During 3 hours
18- Additives to food	Either in original packing or in tightly sealed glass containers	25°C	During 3 hours

It should be noted that during transport, the container must keep the temperature, especially in cooled and frozen samples.

CHAPTER EIGHT: METHODS OF SAMPLES WITHDRAWAL

Introduction:

It is essential to follow the correct technical and scientific foodstuffs sampling methods for examination and analysis in different laboratories so be fully represented for the original article taken from the time of the offer for sale, storage or serving with no doubt. the most important thing we should pay attention and care during withdrawal of samples of foodstuff from food establishments, which make health control on it and bearing in mind that the main aim of our control is to maintain the health of citizens and prevent them from consumption any food may be harmful to health or contrary to the established specifications and legislation.

Therefore, we will review in this Chapter various technical procedures to withdraw samples of various food items, but before that, we must learn, Brother Sanitarian, on something related to sterilization of tools and packages used in the sampling, which is an important and integral to withdraw samples of foodstuffs.

Sterilization of tools and packages used in the sampling:

Sterilizing all of the tools used to withdraw samples of foodstuffs, as well as packages to be used in the transfer of the samples to the laboratories, we have to follow one of the following ways:

- 1- Heating in an oven at a temperature of 170°C for 12 minutes.
- 2- Use Sterile (Autoclave) at a temperature of 121°C for 15 minutes.
- 3- Use water vapor at the temperature of 100°C for 60 minutes.
- 4- Dipping tools in boiled water at the temperature of 100°C for 30 minutes directly before use.
- 5- Disinfecting by dipping in ethyl alcohol 70% with exposing the metal tools to a flame to burn and alleviate the effects of alcohol directly before use.

In what follows, we will discuss the techniques to withdraw samples of various food items.



FIRST: SAMPLES OF FRESH, CHILLED AND FROZEN MEAT AND MEAT PRESERVED BY DRYING, SMOKING, PROCESSED AND PACKED:

1- Fresh and chilled meat preserved by drying and smoking:

We have to take into account the following considerations when retrieving samples including:

- a- Meat-separated from the bone.
- b- Samples taken from scattered areas throughout the slain one.
- c- When analyzing a particular portion of the carcass, such as, for example, we must take into account the number of samples similar to the number of animals according to the following formula:

$$\text{Number of samples} = \sqrt{(\text{number of animals}/2)}$$

- Considering that total weight of the samples is not less than one kilogram.
- d- Samples must be packed in appropriate packaging (according to the requirements contained in the previous Chapter).
- e- Sample should be immediately cooled after withdrawal.
- f- Attach sample card inscribing all the relevant data.

2- Frozen meat:

Take into account all the special requirements mentioned in the previous Chapter.

SECOND: DAIRY PRODUCTS SAMPLES:

1- Liquid milk and milk packaged in small packages (less than a liter), yogurt, and Labneh (pasteurized or heat treated):

The number of packets sent for analysis is according to the following schedule:

Total number of packets	Number of sample packets sent to Lab analysis
Less than 500	3
501 – 1000	4
1001 – 5000	5
More than 5000	6

2- Packaged fluid milk packed in large (more than a liter):

- a- The milk is steered for a period of not less than 30 seconds to ensure homogeneity of its components.
- b- An appropriate quantity (500-600 cm³) for analysis is taken and packaged in clean, dry, sterile tightly closed glass containers.
- c- A preservative (5 points from Formalin solution) is added.

3- Condensed and concentrated milk (sweetened and non-sweetened) packed in packages of less than 1 kg:

A number of samples will be taken in accordance with the following schedule:

Total number of packets	Number of sample packets sent to Lab analysis
Less than 215	3
216 – 350	5
351- 510	6
511 – 730	7
731 – 1000	7
More than 1000	8

4- Powder milk:

- a- Bottled-packed in less than 2 kilograms, the number of samples will be identical to the number of samples of the liquid milk packaged in small packages of one liter and less.
- b- Bottled-packed in large containers, a number of packets is selected and from which a representative sample is withdraw in a way that is not be less than 500 - 600 grams and packed in clean sterilized polyethylene bags and then sent to the laboratory.

5- Cream and butter:

- a- Packed in small packages (less than a kilogram):

Total number of packets	Number of sample packets sent to Lab analysis
Less than 1000	3
1001 – 10, 000	8
More than 10, 000	8 + 1 for every 2, 500 subsequent packets



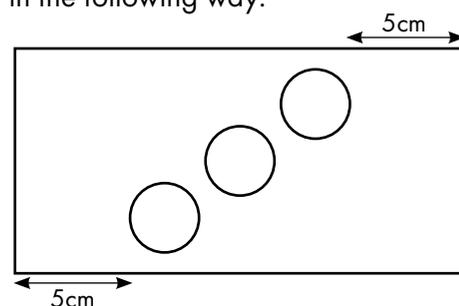
b- Bottled large packages (carton boxes - drums)... etc:

The following table shows the number of samples to be withdrawn for analysis according to the number of existing product packaging at the establishment.

Total number of packets	Number of boxes selected for sample withdrawal	Number of representative sample
Less than 100	1	2
101 – 1000	2	4
1001 – 10, 000	4	8
10, 001 – 25, 000	7	14
25, 001 – 50, 000	10	20

The withdrawal of samples will be at the following manner:

- 1- The pencil of the sample withdraw will be embedded in 3 perpendicular places on the mold, one in the center and two near the opposite mold corner as shown in the following way:



- 2- In the 2, 3 position, the pencil of the withdrawn samples looks bending to the centre to be rotated for a complete circle and then the content inside is withdraw.
- 3- After compiling about 500-600 gm butter turns well for 30 seconds in the shell dry clean use of tillage tool to obtain a homogeneous mixture.
- 4- The sample divided into three equal identical sections and placed in charge of each section dry clean wide crater that close to (be used tools and utensils and containers of samples and their covers completely sterilized in the case of samples for microbiological testing).
- 5- Seal the samples taking into account the one of the three is considered original sample sent to a laboratory for analysis and the other two similar are well kept.
- 6- Various kinds of margarine packaged and packed in one kilogram or less:

The number of packets sent for analysis in accordance following table:

Total number of packets	Number of sample packets sent to Lab analysis
Less than 300	3
301 – 600	4
Each 100 packet more than 600	One packet

7-Cheese in its different forms:

a- Packaged in small packages less than 100 grams:

taken a number of packets to be weighing 300 grams and is divided into three sections and each section mobilized in the shell dry clean room close to the crater and then progress.

b- Packaged in cans less than a kilogram:

the number of samples in accordance with the following schedule:

Total number of packets	Number of sample packets sent to Lab analysis
Less than 500	3
501 – 1000	4
1001- 5000	5
More than 5000	7

c- Packaged in large packages weighing more than a kilogram (dry cheese and half dry):

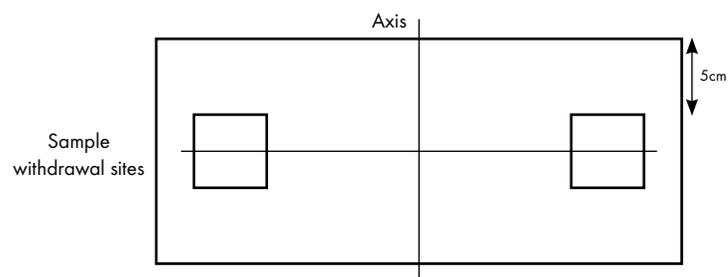
The withdrawal of a number of representative random samples according to the following schedule:

Total number of packets	Number of sample packets sent to Lab analysis
Less than 25	3
26 –50	4
51- 100	5
More than 100	8



The following steps will be followed on sampling:

- 1- Cleaning the outer surface of the package before opening.
- 2- Sample taken by embedding the pencil of samples withdraw in places located on the line perpendicular to the axis of the mold (as in the following diagram), and the sample drawn is not less than 200 grams, and no less total weight of the samples collected after the withdrawals together about 500-600 grams.



- 3- do flipping and make a good mix of samples for a period of not less than 30 seconds using a Flipping tool to obtain a homogeneous mixture.
- 4- Sample is divided into three sections, each section is filled in a clean dry sterile container of a wide mouth and then tightly closed every container and to guard carefully.
- 5- one of the three samples is considered original sample sent to a laboratory for examination and analysis and the other two samples are similar to the original.

d- Soft cheese packaged in large packages (normal, fridge-cheese, creamy and Krish):

Sample withdraw is done by the same way as the previous and cover the samples (after filling in sample packages) with saline solution from the original container being sampled.

8- Refrigerated milky products (ice cream):

a- small packages of no more than 500 grams:

Take the package as sample and divided into three sections, each section mobilized in the clean, dry and Sterile sample container and closed to the terms and progress.

b- Large packages:

- 1- cleaning the outer surface of the packaging before opening.
- 2- draw samples through the Registry sampling Bgersh vertical axis packaging and placed tilts towards the center.
- 3- In the case of multilayered iced items, the sample must contain the same percentages each stratum to be similar to the original product while maintaining the non-separation of classes at the sampling.
- 4- Collected sample weighing about 500-600 gm and is divided into three parts as is normally the case.
- 5- Reserved samples at a temperature of not more than -15 °C and sent to a laboratory in the arbitrator had cooled down for a period of not less than 30 minutes with dry snow.

c- Solid incoherent (loose) Milky iced products:

These products are directly sold from the refrigerator or restructuring machines and samples are withdraw in the following manner:

- 1- fridge will be operated before withdrawing sample for a period of not less than 30 minutes.
- 2- sample withdraw filling three receptacles clean and dry sterile liter of not less than 200 grams.
- 3- closing provisions packets and transported to the laboratory at a temperature of not more than -15°C.

Significant observations must be taken into account when withdrawing samples of milk and dairy products:

- 1- samples are reserved by adding any suitable preserving material such as liquid Formalin, and to be clearly stated on the label of the sample container the type preservative which is added. It is conditioned that the added preservative that do not change or interact with the food material.
- 2- It is strictly forbidden to add any preserving substance to the samples required for microbiological examination or for inspection of its natural characteristics and the sample in this case will be kept by cooling only (one degree below zero to 4°C).



- 3- It is strictly forbidden to add any preserving material to the solid, semi-solid, or dry products, and kept at a temperature of one degree below zero to 4°C.
- 4- split samples drawn into three similar sections:
 - A- Section I: sent to a laboratory for examination and analysis.
 - B-Section II: kept at the municipal environmental health department's relevant to the food establishment.
 - C-Section III: be kept and retain at the food establishment itself.
- 5- products packed in small containers of less than a liter, or less than one kilogram is considered entirely one sample.
- 6- in the case of a swollen package, it should be sent to the laboratory as it is and to write that on the label attached to the sample.

THIRD: OILS AND FATS SAMPLES

a- oils and fats (placed in tanks or cisterns)

The number of samples, representing an accurate representation of the amounts taken and the following must be taken into account:

- take three samples from the upper part of the reservoir.
- Taking one sample from the reservoir (mid).
- Taking one sample of the bottom of the reservoir.

The sample composite is prepared by mixing these samples well with each other and divided as usual into three sections each is individually packed in the clean, dry and sterile glass and closed tightly.

b- Oils and fats packaging to the consumer directly:

Samples taken according to the following schedule:

Total number of packets in the patch	Number of sample packets from the patch which opened for sample withdrawal
Less than 100	4
101 – 200	6
201- 500	10
501- 800	12
801 – 1000	14
1001- 1500	16
1501- 2500	20
2501- 4000	22
4001- 6000	24
6001 – 8500	26
8501 – 10, 000	28
More than 10, 000	30

Note that the weight of the sample sent for analysis is at least one kilogram per tonne lipid and in small packages at least 3 packages for each ton of lipids, and apply this percentage to fractions of a ton of oil. Packaging are to be sent to the laboratory for examination and analysis as an original sample after sealing and write all the data on it.

FOURTH: ALL TYPES OF SUGARY CANDIES SAMPLES:

Sugar candy items:

- 1- dry sweets liable to fragmentation (Drops).
- 2- dry sweets liable to fragmentation and packed (foree-Sugarplum).
- 3- soft sweets such as Tofi, Malban, Noga, Foundaeau, fruit pastes
- 4- candy resins: the output of food resins cooked with sugar.
- 5- eastern sweets: Samesameeh and Humusiyah and Alfoullet.
- 6- chewing candy.



Technical methods for drawing samples of sweets:

a- A number of samples taken randomly according to the following formula, with the note that at least one sample weight of 200 grams:

$$\text{Number of samples} = \sqrt{(\text{number of packages}/2)}$$

b - If the candy is coated, the samples are taken with internal and external coatings.

c- samples are divided into three sections, each is packed individually in the sample container, etc..

FIFTH: ALL TYPES OF BISCUITS SAMPLES:

We must take into account the following considerations when sampling biscuits:

- 1-placed samples in a place other than that of humid air or dust or any other pollutants.
- 2-taken adequate precautions to protect the samples withdrawn and lots, tools and containers from any accidental contamination.
- 3-placed samples of others or small packages of biscuits represented in clean dry sealed containers of appropriate size of glass, tin or aluminum.

The closure of each container containing samples, and record all the necessary data on the sample containers, such as date and time of sampling, batch number, production worth, producer name and address, etc.

SIXTH: ALL TYPES AND VARIOUS SHAPES OF PASTA SAMPLES:

The following considerations must take into account when withdrawing samples of pasta:

- 1- Draw sample away from air currents, the dust and any other pollutants.
- 2- Packaging of glass or other packaging suitable for mobilizing samples to be sealed packets so as not to affect the natural or chemical attributes of samples.
- 3- Sample filled every space of the packaging.
- 4- Draw samples in accordance with the following schedule:

The samples of macaroni in its types and various forms (package less than 2 kilograms)

Number of packets in the patch	Number of sample packets from the patch which opened for sample withdrawal
Less than 4800	6
4801 – 24, 000	12
24, 001 – 48, 000	21
More than 48, 000	27

The samples of macaroni in its types and various forms (packages more than 2 kilograms)

Number of packets in the patch	Number of sample packets from the patch which opened for sample withdrawal
Less than 600	6
601- 2000	12
2001 – 15, 000	21
More than 15, 000	27

5- packages which were withdrawn represents the patch randomly are divided into three equal sections, one sent to the laboratory for examination and analysis as the original sample and the other two samples to be kept; one at the establishment owner and the second at the person withdrawing the existing samples.

6- attached to each sample is a card includes the following data:

- a- kind product and the state at time of his withdrawal sample (name-brand-weight packaging).
- b- producer name and address or source of the letter.
- c- place, date and time of sampling.
- d- number of packets in the quantity or letter and the number of packets that have been withdrawn the samples from it.
- e- Plant name or laboratory which sent to him for examination.
- f- the name-based withdraw samples and function.

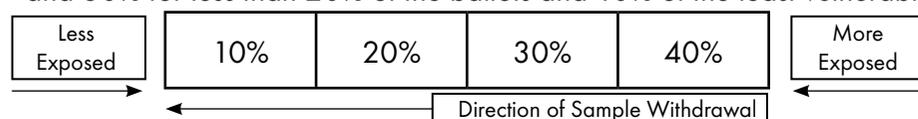


SEVENTH: FLOUR SAMPLES:

The following considerations must take into account when withdrawing samples of flour:
1-taking the appropriate number of samples and packets accordingly to the following formula:

$$\text{Number of samples} = \sqrt{(\text{number of packages in the patch}/2)}$$

2-choose to withdraw from the roadside samples according to the degree of exposure to various environmental factors by 40% of the more vulnerable and 30% for less than 20% of the ballots and 10% of the least vulnerable.



- 3- sampling will be done through the metallic pointed sampling pencil who have a diameter of about 13 mm.
- 4- samples container will left open for several minutes before the start of the withdrawal of samples and one sampling container will be allocated for each sample.
- 5- sample is placed in the receptacle immediately after withdrawal, which governs the lock.
- 6- The entire container space of sampling must be filled with sample.

EIGHTH: GASEOUS (CARBONIZED) BEVERAGES SAMPLES:

Samples are withdrawn in accordance with the following schedule:

Volume of the packet	Number of packets for the Microbial Analysis	Number of packets for Chemical Analysis
Small and medium	2	5
Family size	1	2

NINTH: SESAME SWEETS (HALAWA TAHINEYA) SAMPLES:

In the case of Sesame sweets packed in small packets of less than a kilogram, the number of samples that have been drawn up in accordance with the following schedule:

Number of packets in the patch	Number of chosen packets	Number of packets to be open
Less than 200	6	3
201- 300	8	4
301- 500	10	5
501- 800	12	6
801- 1300	14	7
1301- 3200	16	8
3201- 4500	20	10
More than 4500	30	15

TENTH: VEGETABLES, FRUITS AND PRESERVED PRODUCT, AND JUICES SAMPLES:

The samples of vegetables and preserved fruits be withdrawn in different packages as well as the cans of juice in accordance with the following schedule:

Number of packets in the patch	Number of chosen packets	Number of packets to be open
Less than 200	6	3
201- 300	8	4
301- 500	10	5
501- 800	12	6
801- 1300	14	7
1301- 3200	16	8
3201- 4500	20	10
More than 4500	30	15

The following considerations must be taken into account:

- 1- Allocate half of the packages selected for the microbial and biological (bacteriology) examination and the second half for the chemical examination.
- 2- Each package is checked individually and in the case of a swollen packages sent to the laboratory for examination and analysis in selected samples.

Important Note:

The previously described method of taking samples of vegetables and preserved fruits is the same applied for sampling the following foodstuffs:

- 1- Canned fish products.
- 2- Preserved tomato products by canning.



CHAPTER NINE: THE GOLDEN RULES FOR DEALING WITH FOOD

Introduction:

There are ten very important basic rules to be taken into account when dealing with different foods, which aims eventually to the production of healthy, safe food. Because of their utmost importance, it is called golden rules for dealing with food. We offer these rules as follows:

1. Good choice when buying foods for the sake of safety:

Choosing vegetables and fresh fruit runs all the physical characteristics, such as color and odor, texture and strength.

2. Cook food well:

to the reality, that non-cooked fresh food such as meat, fish, poultry and non-sterile milk are usually contaminated with various pathogens, and good cooking is necessary to eliminate these causes. Good cooking means that every part of the food is exposed to a temperature of not less than 70°C, taking into account the fully thawing of the frozen food before cooking.

3. Eating cooked food immediately:

The temperature of cooked food must not less than 64°C. The cooked food, since must not left cooled to less than 64°C, because cooling initiates the growth of microbes and their reproduction. The risk increased with increasing duration.

4. Care in storing cooked foodstuffs:

In preparing and cooking a large amount of food, or before consumption with a long time, we store the cooked food in temperature of not less than 64°C or directly cooled down to a temperature of not more than 4°C in refrigerators. It is necessary to clean refrigerators with full attention in coverage of stored cooked food, with non stockpiles to ensure that the temperature inside the food center upon catering to 4°C with the requisite speed.

5. Reheating of cooked foods already cooled:

Proper heating and reaching the correct temperature throughout the food to a temperature of not less than 70°C is the best to protect you from germs that may grow in the food chain during storage by cooling, bearing that cooling don't not kill microbes, but only discouraged.

6. Avoid contact between cooked foods and fresh foods (raw):

storage or presence of cooked foods into one with fresh food (raw), or any way they relate to each, lead to the contamination of cooked foods. It happens for example when using containers or processing tools in fresh food previously used in the transportation and processing of cooked food.

7. Repeat hand washing:

repeat hand washing before preparing food, after each stop, and after getting out of the toilet, and after the preparation and processing of the food such as fish, meat, poultry, vegetables and fruits; and cover any injury wound in hands before going into the food business to ensure stopping of the transition of any contaminants or germs from hands to food.

8. Follow the standard of Clean wherever you are:

It means to taking care of the place in all its parts, tools, equipment and utensils as well as all surfaces touching food, with the use of detergents and appropriate disinfectant and final refrain from the use cloth towels in clean-up operations and replacement of paper of high uptake, as well as special interest in clean ground to avoid accidents.

9. Protect foods from insects, rodents and other animals:

Often remember that the insects, rodents and other animals sure source of the pathogenic microorganisms transmitted to the food and then to humans. The best way to protect foods from this danger is by keeping food in airtight containers, always, with the use of insect control methods such as natural lightning electric and ultrasound machines (rodent control), while avoiding the use of toxic pesticides in all of the pest control programs, especially in a spray droplet form for its harmful effect on the food stuff.



10. Use clean water:

The use of water fit for drinking and meet to standard specifications established in food preparation will avoid many problems arising from the use of unfit water.

**CHAPTER TEN:
HEALTH INSPECTION PLAN**

The large increase in the shops numbers and factories of foodstuffs and spread of them in Saudi cities in the past two decades and a shift in dietary patterns, the effect of addition of new burdens to the secretariats, municipalities and rural cooperatives when doing health inspection on food and places of production, and therefore increased the need for an integrated plan to control health inspection on food establishment to ensure safe food production and avoid microbial contamination and remedy the growing dangers of chemical pollution.

Classification of food establishment into three level according to risk degree:

- 1- Of a great danger, include: restaurants, cafeterias and grocery or central markets, Banquets kitchen, meat shops, ice cream shops, shops selling, chilled and frozen poultry. The inspection must done once every two weeks.
- 2- Of medium danger, include: The bakeries, food stores, shops, vegetable and fruit shops, cafes, confectionery shops, food factories, and water, fish shops. The inspection must done each month.
- 3- Of limited danger: including the ice factories, shops reducing the salinity of the water, shops, grain mills, laundries for clothing, barber shops. The inspection must done every three months.

Weekly follow-up report

Format (No. 6) describes the Weekly follow-up report which is prepared by the Sanitarian based on weekly program implementation for the monitoring plan, that is prepared under the supervision of the Director of Environment Health department. The report contains:

- The actual numbers of visits paid to the shops and factories in the Sanitarian scope of work.
- Summary of the main observations and irregularities found during the inspection of shops, factories, which require prompt action to correct them.



- Obstacles and problems encountered by the work and led to a lack of full implementation of the program and bringing this report to officials at the environment health department.

Computer Program for Inspection and Licensing

The computer program helps the inspection and licensing purposes in the prepared periodic plans, which include health and the work of the periodic monitoring and control annual plans.

The program registers the number of times expected to visit the food businesses, which vary depending on the type and nature of business in addition to establish a link between the food businesses and the Sanitarians. The computer program can calculate the first inspection visit to the installation from the date of the license and can track the position of inspection visits by inspection forms. The program issued a series of reports plans including periodical inspection, thus helps the environmental health management to know facilities to be visited and the results of those visits.

The stages of preparing the plan:

- Number of times visiting the food establishments
- Linking food establishments with the Sanitarian
- link established Zone (planned)
- Form inspections of installations
- Issuing periodic reports
- Issuance of the annual report of the monitoring plan, broken down by Sanitarians
- Issuance of the annual report of the monitoring plan, broken down by regions
- Use the feature of recycling Sanitarians

CHAPTER ELEVEN: SANITARIAN BRIEFCASE (BAG)

Introduction

For the Sanitarian to be efficient in his inspection work in the food establishment he should carry a group of different set of tools and equipment that aided and supported him while working, in addition to a series of models, forms and records; for editing when necessary, as already explained in details in the preceding chapters.

FIRST: TOOLS AND EQUIPMENTS:

- 1- Samples' taking pencil with rounder sharp steel tip manufactured of stainless steel; to withdraw samples of foodstuffs such as cheese, butter and other similar foodstuffs.
- 2- Samples' taking pencil with sharp tip made of stainless steel; to withdraw samples of the powder and flour and other similar foodstuffs.
- 3- A portable Thermometer equipped with a pointed tip, and its scale is an upper rounded disc used to measure the temperature inside foodstuffs that stored by cooling, freezing or smoking.
- 4- flame or dry discs easily combustible for sterilization.
- 5- metal spoons of various sizes (5, 10, 20 cm³).
- 6- metal scalpel made of stainless steel.
- 7- clamp.
- 8- scissors.
- 9- metal clamp.
- 10- tools to open the large cans.
- 11- Magnifying lens to help the Sanitarian to see objects and strange insects, their parts or stages to enable him to read the data on the packaging code in some cases.
- 12- hand equipment such as battery lighting (lamp pocket), one of the important tools for an observer to suggest that the discovery of the stored material conditions set away from the runways, where the weak and inadequate lighting in some warehouses parts.

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