

FOOD SAFETY AND FOOD QUALITY



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20/07/2015 Prague

BASIC CONCEPTS

What is food?

- **Any substance or product**, whether processed, partially processed or unprocessed, **intended** to be, or reasonably **expected to be ingested by humans**. (From the European Food Law definition)
- **Food** is considered **safe** if there is reasonable certainty that **no harm** will result from its consumption under anticipated conditions of use. (FAO: Food and agriculture Organization of the United Nations)
- Do you think that water or chewing gum is food?

And this?



THE QUALITY AND THE SAFETY



Food safety

Relate the content of various chemical and microbiological elements in food to wholesome

EVOLUTION OF THE...

Food Quality

| Stage | Aim |
|------------------------------|---|
| Before industrial revolution | Costumer satisfaction. |
| Industrial revolution | Demand satisfaction |
| World War II | Assure efficient and fast production. |
| Postwar: Japan | Minimize cost through the quality and costumer satisfaction. |
| Postwar rest of the world | Demand satisfaction |
| Quality assurance | Costumer satisfaction. Defets preventions. Cost reduction. |
| Total quality management | Intern and extern costumer satisfaction. Competitivity. Continous improvement. |

Food Safety

| Stage | Aim |
|--------------------------------|--|
| Discovery of fire | Not only improve the taste of the meat. But nothing registered. |
| Ancient cultures | Like Rome, Aztecs, Egyptians |
| Napoleon-appert | Method to avoid spoil food |
| Pasteur, Redi, Paget and Owen | life is not spontaneous. and microorganism exists |
| Refrigeration and preservation | how to keep it longer without spoiling |
| Food supply | business, mass production. |
| Modern society | new concerns, new lifestyles. |

FOOD SAFETY NOWADAYS

The conception of FS have been changing with the history
Dioxin crisis (2009)



Bovine spongiform encephalopathy (BSE) (1999)



Or more recently the horse meat scandal
(2012)



California Restaurant Briefly Shut Down After Being Linked to Shigella Outbreak

BY NEWS DESK | OCTOBER 2, 2014



Zov's Restaurant in Irvine, CA, closed down briefly on Wednesday after a foodborne illness investigation was linked to four customers, health department officials reportedly said Thursday. Deanne Thompson of the Orange County Health Care Agency said that those sickened had eaten at Zov's on three different dates between Sept. 16-22, and that all four had...

Tags: Orange County Health Care Agency, Shigella, Zov's, Zov's Restaurant

Comments

Update: CDC Says Salmonella Outbreaks in Michigan, South Carolina Are Not Related

BY DAN FLYNN | OCTOBER 2, 2014



UPDATE: An investigation by the federal Centers for Disease Control and Prevention (CDC) into both the Michigan and South Carolina Salmonella outbreaks has concluded that they are not related and are not part of any multi-state outbreak. Dr. Ian Williams, who heads up CDC's foodborne outbreak unit, told Food Safety News on Thursday that genetic fingerprinting is...

Tags: berries, Branch-Hillsdale-St. Joseph Counties Community Health Agency, CDC, FDA, melons, Microbiological Data Program, Salmonella, South Carolina Department of Health and Environmental Control

4 Comments

Taiwan's health minister quits over 'gutter oil' scandal

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POSTED: 04 Oct 2014 11:16
UPDATED: 04 Oct 2014 11:31

RELATED CONTENTS

Chiu Wen-ta has resigned over a food safety scare that has gripped the island after hundreds of tonnes of products made with "gutter oil" were removed from sale.

FOOD SAFETY

CHALLENGES

The challenges for food control authorities include:

- Increasing **burden of foodborne illness** and new and emerging foodborne **hazards**;



- Rapidly **changing technologies in food production**, processing and marketing;



- Developing science-based food control systems with a focus on **consumer protection**;



FOOD SAFETY

CHALLENGES

- International **food trade** and need for harmonization of food safety and quality **standards**;



- **Changes in lifestyles**, including rapid urbanization;



- Growing consumer **awareness** of food safety and quality issues and increasing demand for **better information**.



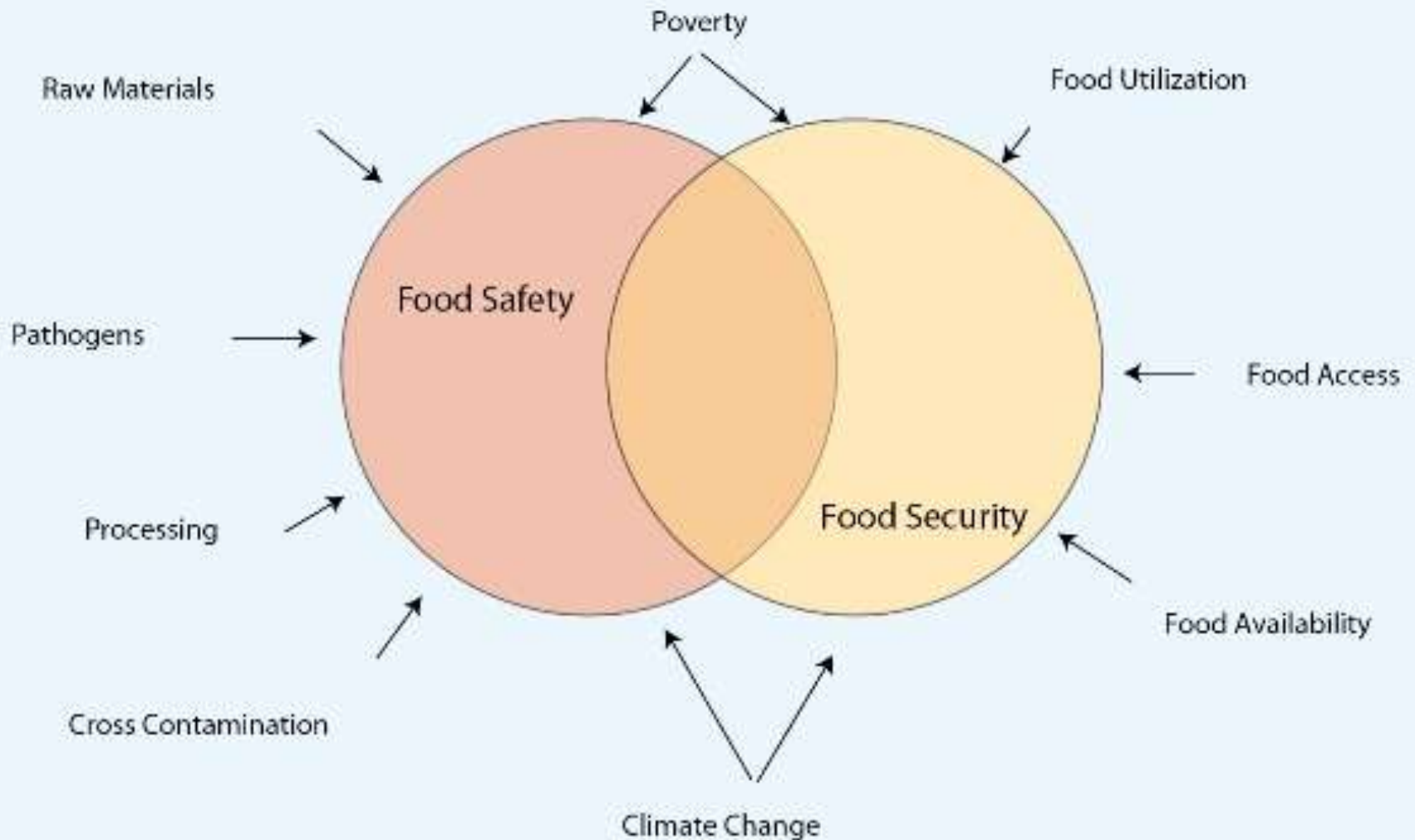
FOOD SAFETY

The 5 key principles of food safety and food hygiene, according to WHO, are:

- **Prevent contaminating food** with pathogens spreading from people, pets, and pests.
- **Separate raw and cooked** foods to prevent contaminating the cooked foods.
- **Cook foods** for the **appropriate** length of **time** and at the appropriate **temperature** to kill pathogens.
- **Store food** at the proper temperature.
- Do use **safe water** and cooked materials.

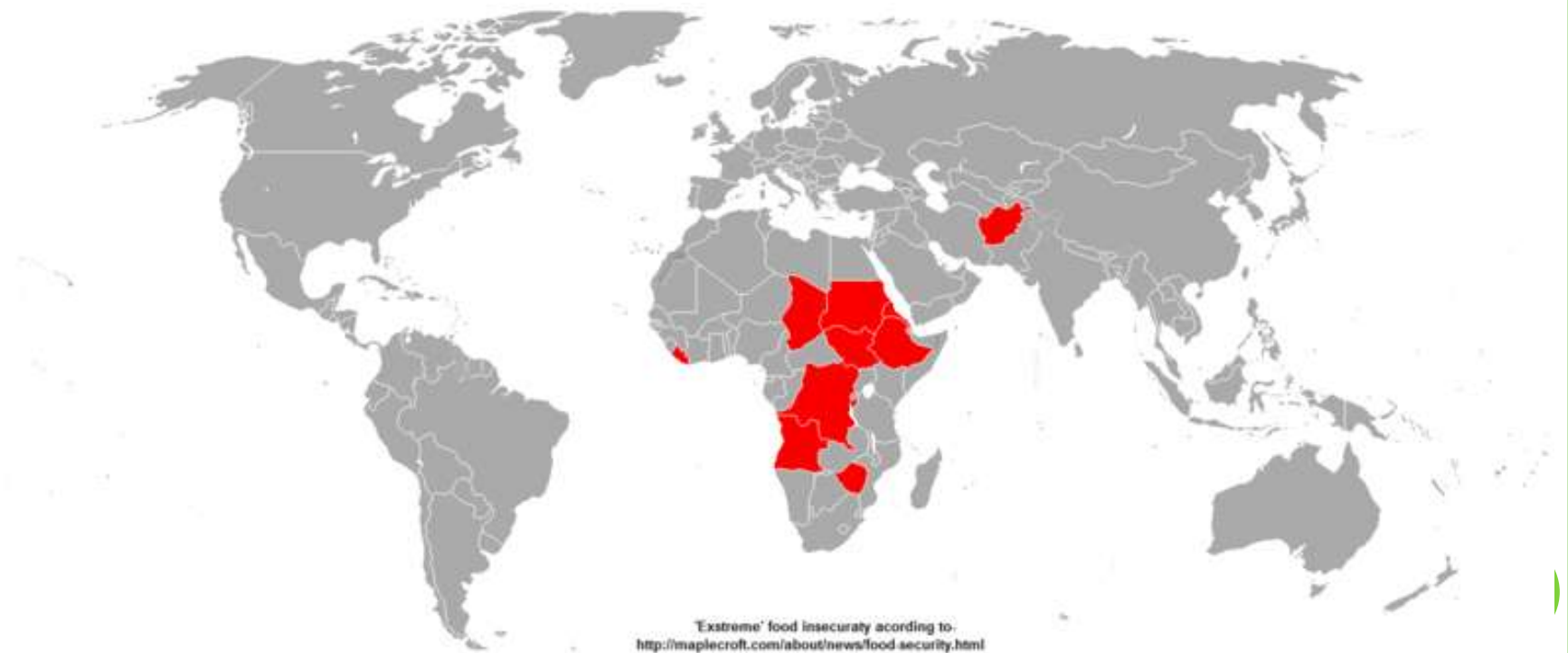


FOOD SAFETY AND FOOD SECURITY



Food security was defined in
the 1974 World Food Summit (WFS) as:

“availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices”.



Liberia, Angola, Zimbabwe, Congo, Ethiopia, Afghanistan...

FOOD

SAFETY / QUALITY / SECURITY

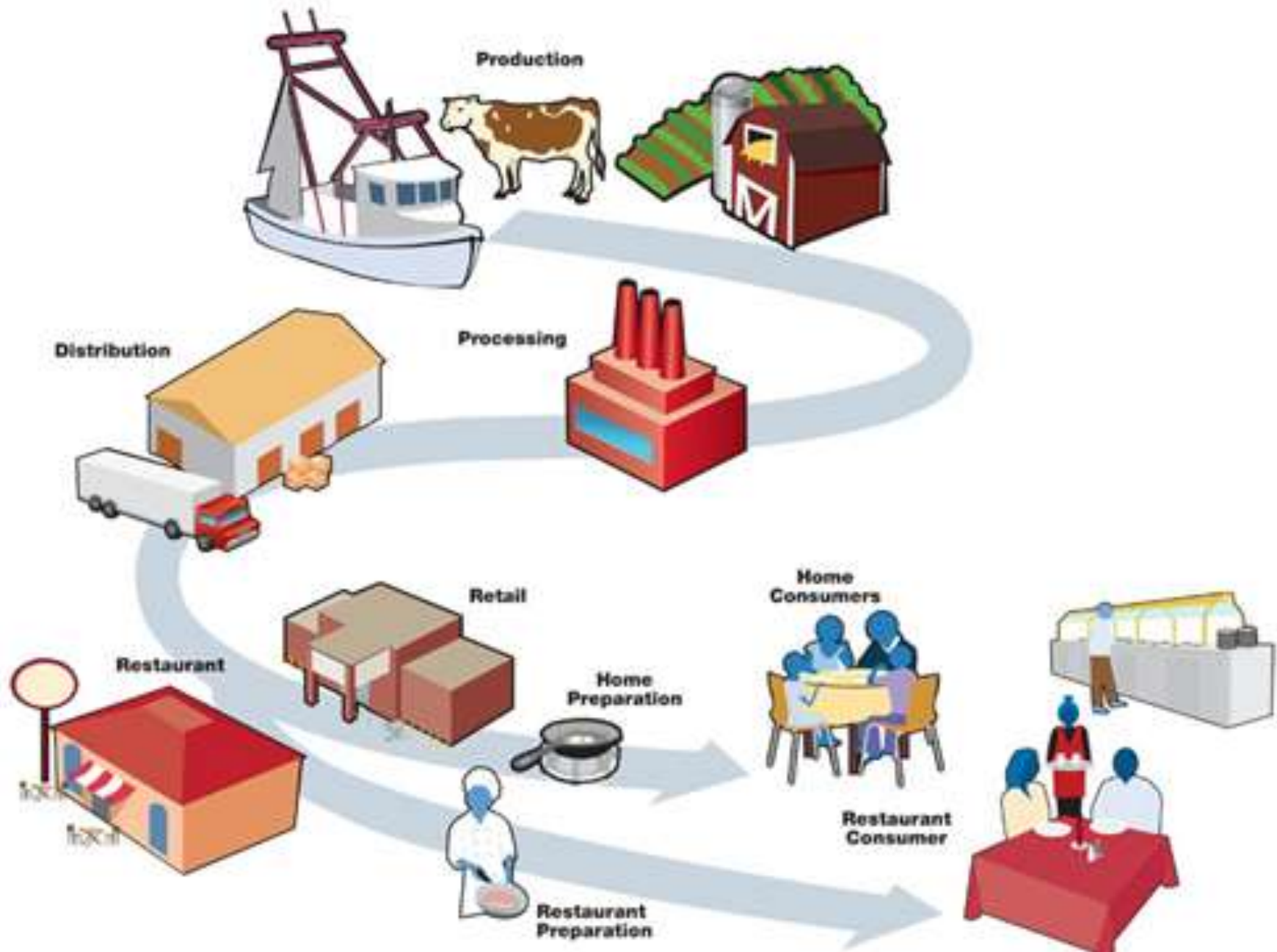
| Food Safety | Food Quality | Food Security |
|--|---|---|
| <p>Food is considered safe if there is reasonable certainty that no harm will result from its consumption under anticipated conditions of use (FAO)</p>  <p>No harmful for humans.</p> | <p>The quality characteristics of food that is acceptable to consumers. This includes external factors as appearance (size, shape, colour, gloss, and consistency), texture, and flavour; factors such as federal grade standards (e.g. of eggs) and internal (chemical, physical, microbial). Social and physiologic factors.</p> <p>Acceptable for consumer.</p>  | <p>When all people at all times have access to sufficient, safe and nutritious food to maintain a healthy and active life.</p>  <p>Sufficient for all humans.</p> |

ACCORDING TO THE REGULATION 178/2002

- **Food (or foodstuff)** means any substance or product, whether processed, partially processed or unprocessed, intended to be, or reasonably expected to be **ingested by humans**
- **Feed (or feedingstuff)** means any substance or product, including additives, whether processed, partially processed or unprocessed, intended to be used for **oral feeding to animals**
- **Food law** means the **laws**, regulations and administrative provisions **governing food in general**, and food safety in particular, whether at Community or national level; it covers any stage of **production, processing and distribution of food**, and also of feed produced for food producing animals



CONCEPTS AND DEFINITIONS



- **Retail** means the handling and/or processing of food and its **storage** at the point of **sale or delivery** to the final consumer, and includes distribution terminals, catering operations, factory, canteens, institutional catering, restaurant and other similar food service operations, shops, supermarket distribution centers and wholesale outlets



- **Placing on the market** means the **holding of food or feed for the purpose of sale**, including offering for sale or any other form of transfer, whether free of charge or not, and the **sale, distribution**, and other forms of transfer themselves

ACCORDING WITH FOOD SAFETY



- **Hazard** means a **biological, chemical or physical agent** in food or feed with the **potential to cause an adverse health effect**
- **Risk** means a function of the **probability of an adverse health effect** and **the severity of that effect**, consequential to a hazard
- **Risk analysis** means a process consisting of three interconnected components:
 - risk assessment, risk management and risk communication**
- **risk assessment** - means a scientifically based process consisting of four steps:
 - 1. hazard identification,
 - 2. hazard characterisation,
 - 3. exposure assessment,
 - 4. risk characterisation.





- **risk management** - the **process**, distinct from risk assessment, of **weighing policy alternatives** in consultation with interested parties, considering risk assessment and other legitimate factors, and, if need be, **selecting appropriate prevention and control options**
- **risk communication** - the **interactive exchange** of **information** and opinions throughout the **risk analysis process** as regards hazards and risks, risk-related factors and risk perceptions, among risk assessors, risk managers, consumers, feed and food businesses, the academic community and other interested parties, including the explanation of risk assessment findings and the basis of risk management decisions

- **Traceability**: means the ability **to trace** and follow a food, feed, food-producing animal or substance intended to be through all stages of production, processing and distribution.
- **Rapid Alert System (RAS)** for the **notification** of a direct or indirect **risk to human health** deriving from **food** or feed is hereby established as a network. It shall involve **the Member States, the Commission and the Authority**.



- **HACCP**: Hazard Analysis and Critical Control Points. A system which **identifies, evaluates, and controls hazards** which are significant for **food safety**.

CODEX ALIMENTARIUS

IN 2003, THE WHO AND FAO PUBLISHED THE CODEX ALIMENTARIUS WHICH SERVES AS AN GUIDELINE TO FOOD SAFETY.

Book of Food, it is a collection of **internationally recognized standards**, codes of **practice**, guidelines and other recommendations relating **to foods**, food production and food safety



ORGANISMS

EFSA: European Food Safety Authority

WHO: World Health Organization

FAO: Food and Agriculture Organization of the United Nations

ISO: International Organization for Standardization

CDC: Centers for Disease Control



EFSA: European Food Safety Authority:

is the keystone of European Union (EU) risk assessment regarding food and feed safety.

WHO: World Health Organization

is a specialized agency of the United Nations (UN) that is concerned with international public health.



EFSA : Formation

- European Food Safety Authority created in January 2002, following a series of food crises in the late 1990s
- EFSA is an **independent** source of scientific advice and communication on risks associated with the food chain
- Funded by the EU budget
- In collaboration with national authorities
- EFSA's Scientific Panels are composed of highly qualified scientific expert



FAO: Food and Agriculture Organization of the United Nations

is a specialized agency of the United Nations that leads international efforts to defeat hunger.

ISO: International Organization for Standardization

is an international standard-setting body composed of representatives from various national standards organizations.

CDC: Centers for Disease Control

is a United States federal agency under the Department of Health and Human Services. It works to protect public health and safety by providing information to enhance health decisions, and it promotes health through partnerships with state health departments and other organizations.



*THANK YOU FOR YOUR
ATTENTION!!!!!!*

