



Development of Food Safety Training Materials Through Memory Anchors and Elevated Learning

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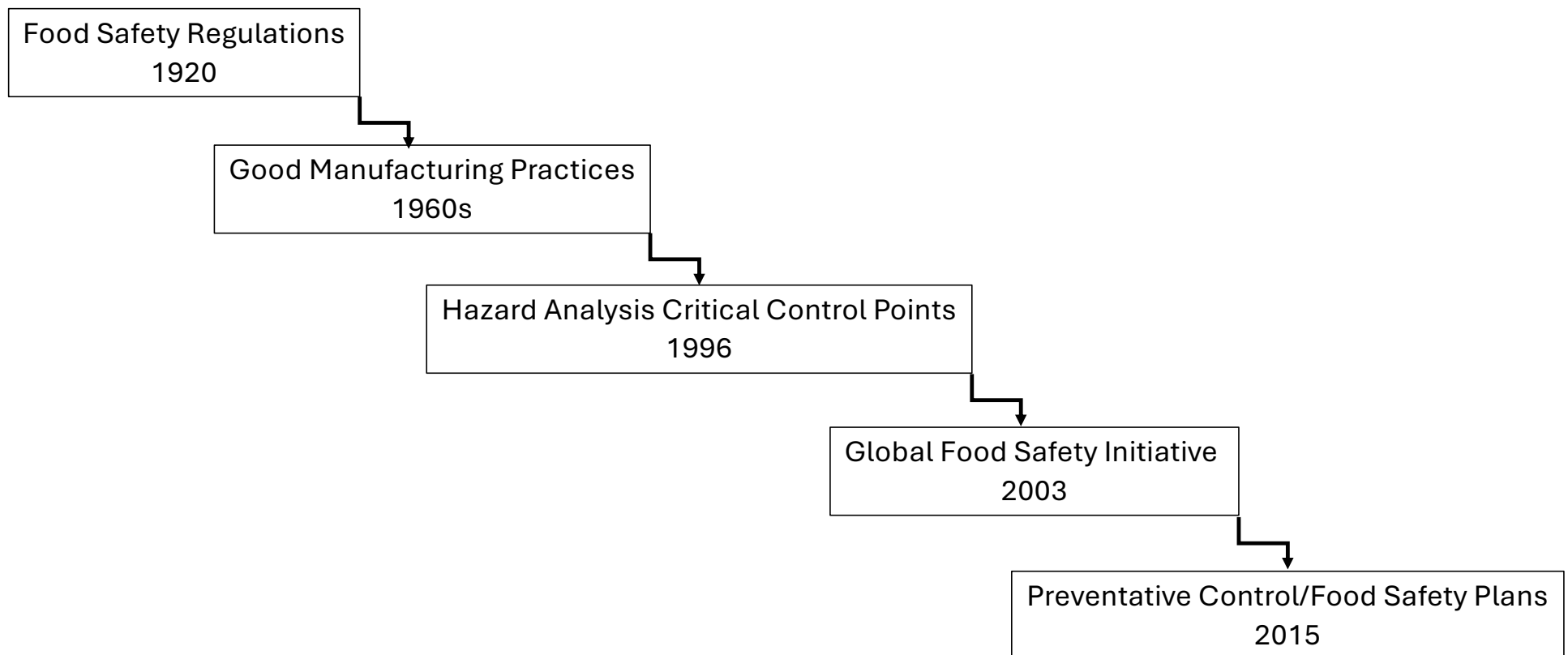
Hosted by Prof. Jean-Yves Maillard
Cardiff University, Wales



Learning Objectives

- Aware of the evolution of food safety management systems
- What is the purpose of training?
- Why is there a disconnect between knowledge and behavior?
- Understand the concept of memory anchors and application to food safety training.
- Be able to apply higher learning approach that encompasses mapping, chunking and learning by asking.
- Understand the approach of developing the Food Safety Toolbox

Food Safety Management Systems



FOOD SAFETY ■ LISTERIA MONOCYTOGENES

Nationwide outbreak spurs massive meat recall

Maple Leaf plant shut after bacterial illness kills one and sickens at least 16 others

BY MATTHEW CAMPBELL TORONTO

One person is dead and at least 16 more have been sickened by a nationwide outbreak of listeria infection that may have originated in a Toronto meat processing plant.

Maple Leaf Foods Inc. announced yesterday the recall of more than 20 meat products and temporarily shut down the Toronto factory where they were packaged. Listeria monocytogenes, a relatively common food-borne bacterium that can cause serious illness in pregnant women and the elderly,

The symptoms

Listeriosis causes fever, chills, nausea, diarrhea, headache and aches and pains. The onset of illness after infection from the bacteria can be from 18 hours to three months. The median incubation period is estimated to be three weeks.

came to the attention of public-health officials in Ontario, British Columbia, Saskatchewan and Quebec. They asked the Canadian Food Inspection

Tainted meat toll grows

Six deaths are blamed on bacterial outbreak and health officials investigate six others

JOHANNA SMITH

STAFF REPORTER

A dozen deaths are now linked to the outbreak of a bacterial infection that prompted a nationwide recall of ready-to-eat meat, the Public Health Agency of Canada said yesterday.

Eleven deaths took place in Ontario, including four in Greater Toronto.

PRESIDENT & CEO OF MAPLE LEAF FOODS ON COMPANY'S MEAT RECALL

LIVE

CP 24

Recall

Various Silk and Great Value brand plant based beverages



Why outbreaks keep occurring

- Plans not implemented as written
- Flaws in the food safety management system
- People factor
 - Staff
 - Management
 - Inspectors
 - Auditors



Training

Aims of training in performing tasks:-

- Correctness
- Consistent
- Continuous improvement
- Food Business Owners
- Food handlers
- Competent authorities



Food Safety Culture

- Shared mindset
- Values and Beliefs
- Behavioral norms
- Management commitment
- Employee empowerment



Frank Yiannas



Chris Griffith



Doug Powell

But what is it?

- Concept
- Can it be measured?
- How to assess?
- How to improve to a positive culture?



Top Down- importance of leadership

Training

Foster positive culture

Shared mindset

Collective responsibility

Blah-Blah

Blah-Blah

Blah-Blah

Blah-Blah

Knowledge-Action Gap

- Transition of knowledge to behavior major hurdle
- Behaviour is influenced by social structure
- Evolved to act here-and-now, limited time to plan action
- Memory anchors enable rapid decision making – for better or worse

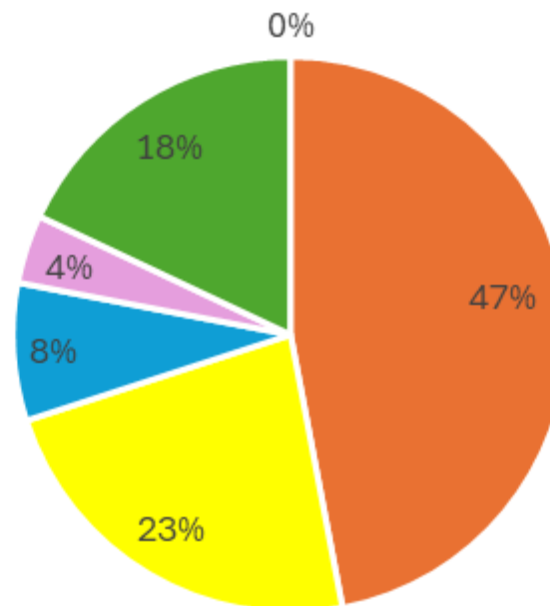
Food Service Staff

Food safety culture
assessment tool
Question: Where do
you acquire most of
your food safety
knowledge from?

0% selected
management

N = 50

■ Management ■ Common Sense ■ Work Colleagues
■ Youtube/News ■ From Mistakes ■ Training Courses



Anchor Memories

- Anchor memories establish networks and connections for easy memory retrieval required for action
- We are not born with anchors but develop over time
- Close relatives (e.g. mother) has the strongest influence on memory anchors
- Connect with family, friends, and others we work with

- Anchor memories transition into belief
- Breaking belief is almost impossible
- Influences don't influence; they tune into beliefs
- Cannot erase anchor memories but can establish new anchors higher in the hierarchy



MEMORY ANCHOR GRAPHIC



A close-up photograph of a person's hands washing a whole raw chicken in a stainless steel sink. Water is running from a faucet onto the chicken. The text "1. You should wash chicken before cooking" is overlaid in the center of the image.

**1. You should wash
chicken before cooking**



PSA Grocery Shopping Tips in COVID-19 (See Important Notes Below)
www.DrJeffVW.com



Jeffrey VanWingen
63.6K subscribers

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 240K



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26M views 5 years ago
www.DrJeffVW.com



Safe Grocery Shopping: U of G Expert Dispels Myths




University of G...
4.28K subscribers

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 Like



 Share



97K views 5 years ago
Prof. Jeff Farber from U of G's Department of Food Science, offers tips for safe grocery store shopping amid COVID-19 ...more

#1 NATIONAL BESTSELLER

THE FOOD BABE WAY

"It would be nearly impossible for someone not to lose weight and feel better after following these 21 habits. They are absolutely life-changing."

—Joel K. Kahn, MD, author of
The Whole Heart Solution

Break Free
from the Hidden
Toxins in Your Food
And Lose Weight,
Look Years Younger,
and Get Healthy in
Just 21 Days!

VANI HARI

Foreword by Mark Hyman, MD



Making new anchors

- Must be positive: Don't linger on what is wrong with the old way
- Accepted and learnt by a collective of associates



18:08

Made me chuckle: - Promote the GMP culture according to the staff awareness program with a slogan per month, for example: "life is better with clean hands" (January), "If it makes you cry and leaves you breathless, it is not love, it is a allergen (February).

- Age and knowledge change perspectives
- Knowledge is important but only a part in anchor construction

Building a Food Safety Toolbox

Codex Alimentarius : Unifying factor

Post-WWII

- Increase in trade
- Reduce foodborne illness and food insecurity
- Standards and regulations- regional, weak science based
- Food and Agriculture Organization (FAO) – Food Security
- World Health Organization (WHO) – Public Health
- World Trade Organization (WTO) – Global Trade



The background of the cover is a solid blue color with several large, overlapping, curved lines in varying shades of blue, creating a dynamic, wave-like pattern.

GENERAL PRINCIPLES OF FOOD HYGIENE

(CXC 1-1969)

Food and Agriculture Organization of the United Nations
World Health Organization
Rome, 2023

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

E-mail: codex@fao.org - www.codexalimentarius.org

- First edition 1961
- Developed by scientists from 164 countries
- Science consensus

GENERAL PRINCIPLES OF FOOD HYGIENE

CXC 1-1969

- 9 Sections
- 38 pages
- Foundation for regulations and food codes across the globe

Adopted in 1969. Amended in 1999. Revised in 1997, 2003, 2020, 2022. Editorial corrections in 2011.*

- Good Manufacturing Practice
- Good Hygienic Practice
- HACCP

Regulators

- Codex do not make or enforce laws
- International body that develops standards agreed upon by trading partners
- Regulators
 - Interpretation of Codex (Global Standard)
 - Food Code – guidelines on how to comply regulations

Approach

Descriptive

- Outcome based
- Open to interpretation
- Flexibility
- Requires background knowledge
- You don't know what you don't know

Prescriptive

- Specific instructions
- Inflexible
- Not open to interpretation
- Generic
- Unsuitable for diverse systems

Regulations migrate to complexity

- Risk-based – New Knowledge – New Hazards
- Complexity closes gaps if current regulations are insufficient
- Complexity favored by large businesses to go beyond regulation and differentiate against small operations
- Complexity migrates to prescriptive guidelines
- Challenging to understand, interpret and apply

Guideline Formulation

- Interpret regulations
- Simplify knowledge
- Prescriptive
- To meet the minimum for compliance
- Generic (one fits all)
- Certification and incentives
- Translation of knowledge to practice remains a challenge

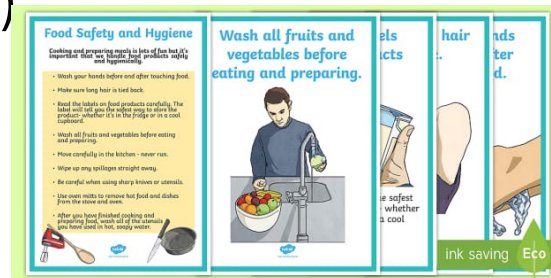


Guideline Communication

- Food Business Operators
 - Inspectors
 - Consultants
 - Trainers
-
- Classroom
 - Print material (Food code)
 - Infographics



FSA Releases New Model for Food
Standards Controls in Revised
Food Law Code of Practice



2022 Food Code

U.S. Food and Drug Administration



U.S. Department of Health and Human Services
U.S. Food and Drug Administration
U.S. Public Health Service
College Park, MD 20740

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2-3 Personal Cleanliness

Subparts:

[2-301 Hands and Arms](#)

[2-302 Fingernails](#)

[2-303 Jewelry](#)

[2-304 Outer Clothing](#)

2-301 Hands and Arms

2-301.11 Clean Condition.

FOOD EMPLOYEES shall keep their hands and exposed portions of their arms clean. ^P

2-301.12 Cleaning Procedure.

- (A) Except as specified in ¶ (D) of this section, FOOD EMPLOYEES shall clean their hands and exposed portions of their arms, including surrogate prosthetic devices for hands or arms for at least 20 seconds, using a cleaning compound in a HANDWASHING SINK that is equipped as specified under § 5-202.12 and Subpart 6-301. ^P
- (B) FOOD EMPLOYEES shall use the following cleaning procedure in the order stated to clean their hands and exposed portions of their arms, including surrogate prosthetic devices for hands and arms:
- (1) Rinse under clean, running warm water; ^P
 - (2) Apply an amount of cleaning compound recommended by the cleaning compound manufacturer; ^P
 - (3) Rub together vigorously for at least 10 to 15 seconds while:
 - (a) Paying particular attention to removing soil from underneath the fingernails during the cleaning procedure, ^P and

- (b) Creating friction on the surfaces of the hands and arms or surrogate prosthetic devices for hands and arms, fingertips, and areas between the fingers; ^P
- (4) Thoroughly rinse under clean, running warm water; ^P and
- (5) Immediately follow the cleaning procedure with thorough drying using a method as specified under § 6-301.12. ^P
- (C)** *To avoid re-contaminating their hands or surrogate prosthetic devices, FOOD EMPLOYEES may use disposable paper towels or similar clean barriers when touching surfaces such as manually operated faucet handles on a HANDWASHING SINK or the handle of a restroom door.*
- (D)** *If APPROVED and capable of removing the types of soils encountered in the FOOD operations involved, an automatic handwashing facility may be used by FOOD EMPLOYEES to clean their hands or surrogate prosthetic devices.*

2-301.13 Special Handwash Procedures.

Reserved.

2-301.15 Where to Wash.

FOOD EMPLOYEES shall clean their hands in a HANDWASHING SINK or APPROVED automatic handwashing facility and may not clean their hands in a sink used for FOOD preparation or WAREWASHING, or in a service sink or a curbed cleaning facility used for the disposal of mop water and similar liquid waste. ^{Pf}

2-301.16 Hand Antiseptics

(A) A hand antiseptic used as a topical application, a hand antiseptic solution used as a hand dip, or a hand antiseptic soap shall:

(1) Comply with one of the following:

(a) Be an APPROVED drug that is listed in the FDA publication **Approved Drug Products with Therapeutic Equivalence Evaluations** as an APPROVED drug based on safety and effectiveness; ^{Pf} or

(b) Have active antimicrobial ingredients that are listed in the FDA monograph for OTC Health-Care Antiseptic Drug Products as an antiseptic handwash, ^{Pf} and

(2) Consist only of components which the intended use of each complies with one of the following:

(a) A threshold of regulation exemption under 21 CFR 170.39 - Threshold of regulation for substances used in FOOD-contact articles; ^{Pf} or

(b) 21 CFR 178 - Indirect FOOD Additives: Adjuvants, Production Aids, and Sanitizers as regulated for use as a FOOD ADDITIVE with conditions of safe use, ^{Pf} or,

(c) A determination of generally recognized as safe (GRAS). Partial listings of substances with FOOD uses that are GRAS may be found in 21 CFR 182 - Substances Generally Recognized as Safe, 21 CFR 184 - Direct FOOD Substances Affirmed as Generally Recognized as Safe, or 21 CFR 186 - Indirect FOOD Substances Affirmed as Generally Recognized as Safe for use in contact with FOOD, and in FDA's Inventory of GRAS Notices, ^{Pf} or

(d) A prior sanction listed under 21 CFR 181 - Prior Sanctioned FOOD Ingredients, ^{Pf} or

(e) a FOOD Contact Notification that is effective, ^{Pf} and

(3) Be applied only to hands that are cleaned as specified under § 2-301.12. ^{Pf}

(B) If a hand antiseptic or a hand antiseptic solution used as a hand dip does not meet the criteria specified under Subparagraph (A)(2) of this section, use shall be:

- (1) Followed by thorough hand rinsing in clean water before hand contact with FOOD or using gloves; ^{Pf} or
- (2) Limited to situations that involve no direct contact with FOOD by the bare hands. ^{Pf}

(C) A hand antiseptic solution used as a hand dip shall be maintained clean and at a strength equivalent to at least 100 MG/L chlorine. ^{Pf}

2-302 Fingernails

2-302.11 Maintenance.

- (A) FOOD EMPLOYEES shall keep their fingernails trimmed, filed, and maintained so the edges and surfaces are cleanable and not rough. ^{Pf}
- (B) *Unless wearing intact gloves in good repair*, a FOOD EMPLOYEE may not wear fingernail polish or artificial fingernails when working with exposed FOOD. ^{Pf}

2-303 Jewelry

2-303.11 Prohibition.

Except for a plain ring such as a wedding band, while preparing FOOD, FOOD EMPLOYEES may not wear jewelry including medical information jewelry on their arms and hands.

2-304 Outer Clothing

2-304.11 Clean Condition.

FOOD EMPLOYEES shall wear clean outer clothing to prevent contamination of FOOD, EQUIPMENT, UTENSILS, LINENS, and SINGLE-SERVICE and SINGLE-USE ARTICLES.



Questionable Advice
Department:



"Dumb it down"

ADDIE

Classic method of course design

- **Analyze**- who are the learners and what knowledge to they need
- **Design** – learning objectives and methodology
- **Develop**- create and design material
- **Implement**- how should the material be delivered
- **Evaluate**- how do I know the course is successful

Limitations of ADDIE

- Time resource
- High costs
- Rigid
- Disconnect between developer and learner



Try Something Different

Elevated/Deep Learning

- Increase knowledge base
- Self-directed learning
- Connecting elements and problem-solving
- Asking the right questions

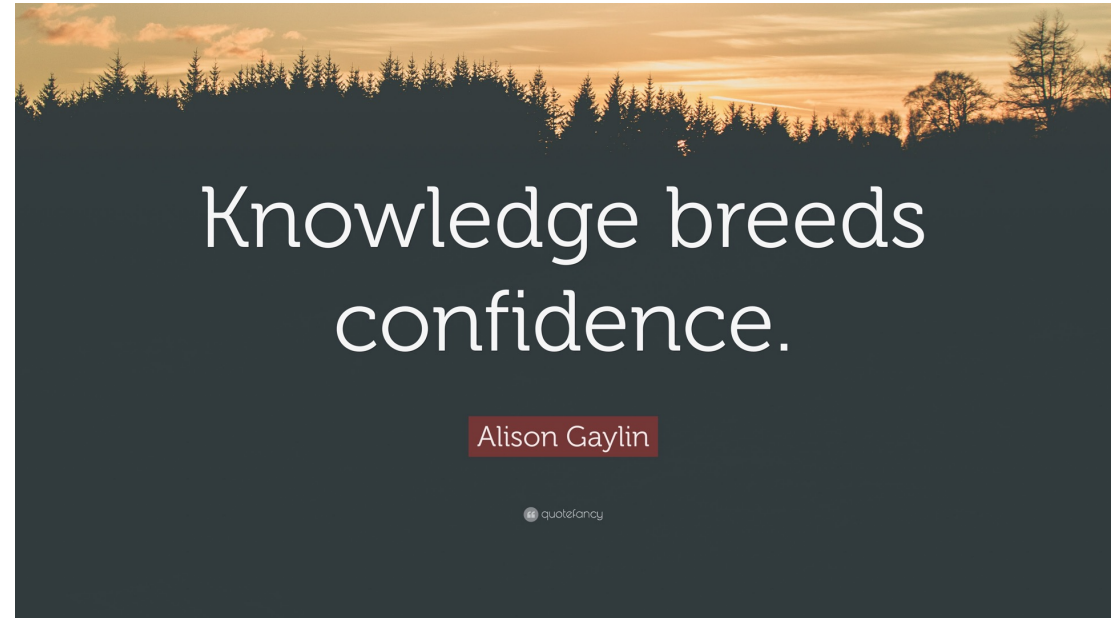


Approach

- Build confidence
- Provide ownership
- Let the reader find context
- Facilitate easy access to relevant information

No evaluation – web analytics

No certificates - considered the end of learning



Article

Development of an online food safety toolbox based on the Codex Alimentarius General Principles of Food Hygiene: engaging users through mapping, chunking, and learning-by-asking

Mahdiyeh Hasani¹, S Vanessa Camacho-Martinez¹, Brenda Zai¹, Lara J. Warriner¹,
Cornelia Boesch², Christine Kopko², Fabiana Marafiotti², and Keith Warriner^{1,*} 

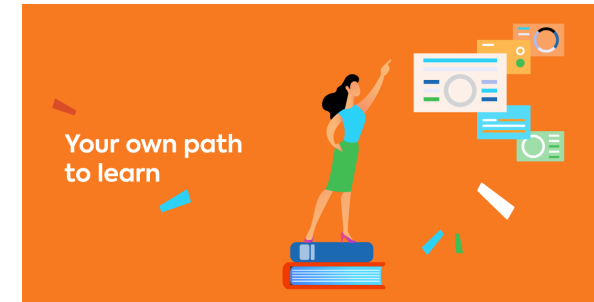
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Food Safety Toolbox

- Based on Codex General Principles of Hygienic Practice
- Foundation for all regulations
- Empower user by showing the path to learning



- Food Safety Toolbox
 - Science based
 - Mapping – route to learning
 - Grouping (Chunking)
 - Learn-By-Asking

[Link: Home \(fao.org\)](https://www.fao.org/)

Good Hygiene Practices (GHP) and HACCP Toolbox for Food Safety

 [Background](#) [How to use](#) [GHP](#) [HACCP](#) [Glossary](#) [FAQ](#)



GHP and HACCP

Good Hygiene Practices, or GHPs, form the basis of all food hygiene systems that support the production of safe and suitable food. The HACCP approach focuses on control measures for significant hazards rather than relying only on end-product inspection and testing.

Food Safety Toolbox

- Science based: What science do we know and can it be applied in risk assessment?
- Mapping: Identifying the elements and interactions
- Chunking: Breaking down elements into small constituent parts (Chunks).
 - Short-term memory – long term memory – behavior
- Learn-by-Asking: What questions should be asked in relation to element implementation.

Workflow

1. Refer to relevant section in General Guide to Hygienic Practice
2. Map relevant key points
3. Downloadable Brochure (Chunking)
 - How section relates to other sections of GHP
 - Context – why is it important
 - Identify learning objectives
 - Definitions
 - Section map and what questions to consider
 - Provide background information
 - How to implement under different situations
 - What are the responsibilities of the Food Business Owner
 - Learn by Asking
4. Further reading to go deeper

Mapping

- Review section in the GHP manual

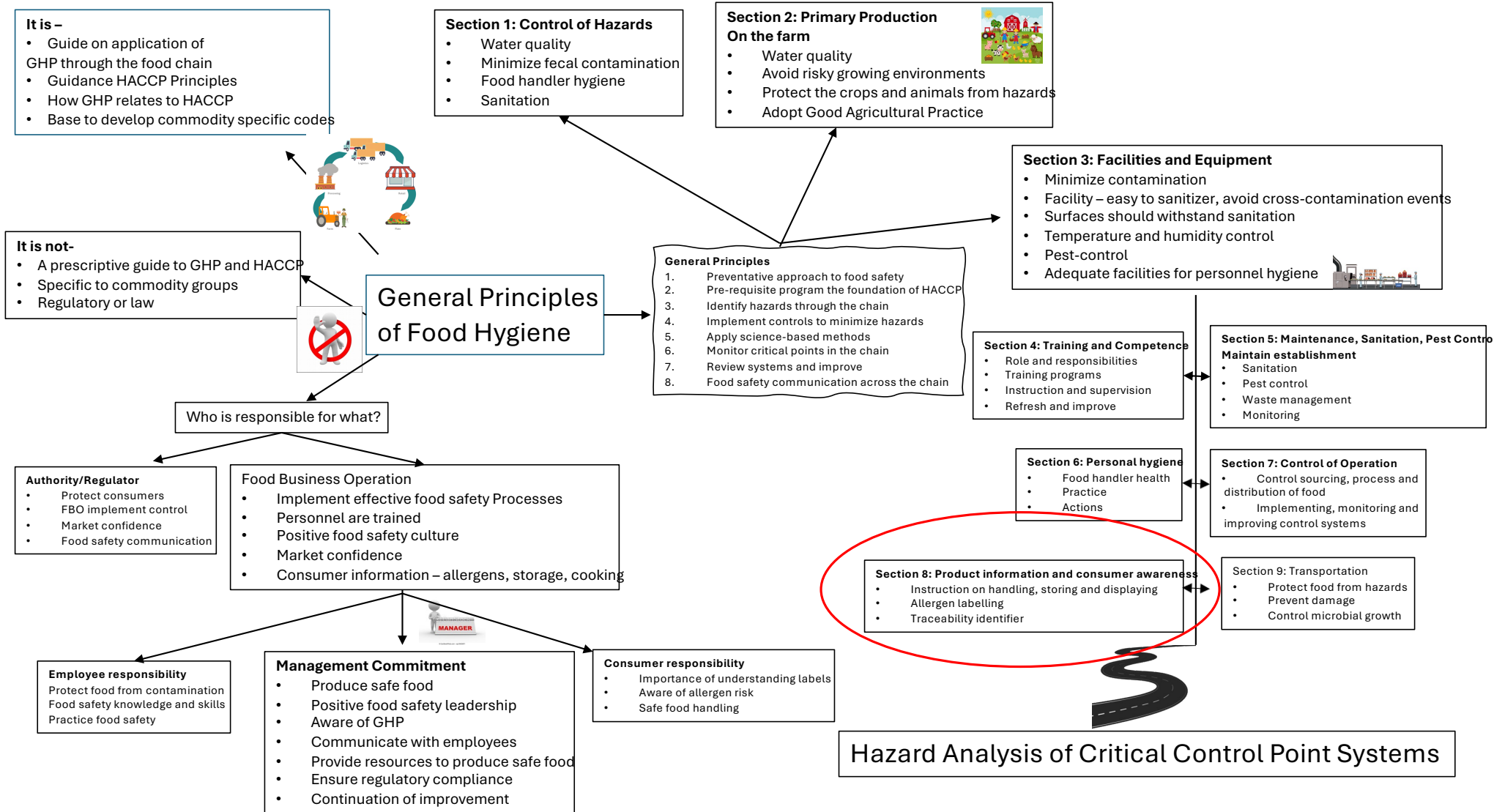
6.3 Personal Cleanliness

Personnel should maintain a high degree of personal cleanliness and, where appropriate, wear suitable protective clothing, head and beard covering, and footwear. Measures should be implemented to prevent cross-contamination by personnel through adequate hand washing and, where necessary, the wearing of gloves. If gloves are worn, appropriate measures should be applied to ensure the gloves do not become a source of contamination.

Personnel, including those wearing gloves, should clean their hands regularly, especially when personal cleanliness may affect food safety. In particular they should wash hands:

- at the start of food handling activities;
- when returning to work after breaks;
- immediately after using the toilet; and
- after handling any contaminated material, such as waste or raw and unprocessed foods where this could result in contamination of other food items.

In order not to contaminate food, personnel should wash hands with soap and water and rinse and dry them in a manner that does not recontaminate the hands. Hand sanitizers should not replace hand washing and should be used only after hands have been washed.



Section within the Toolbox (Brochuer)



Food and Agriculture Organization
of the United Nations

GHP – SECTION 6

PERSONAL HYGIENE

FAO Good Hygiene Practices (GHP) and
Hazard Analysis and Critical Control Point
(HACCP) Toolbox for Food Safety

Relation to other sections of GHP guide

FAO Good Hygiene Practices (GHP) and Hazard Analysis and Critical Control Point (HACCP) Toolbox for Food Safety

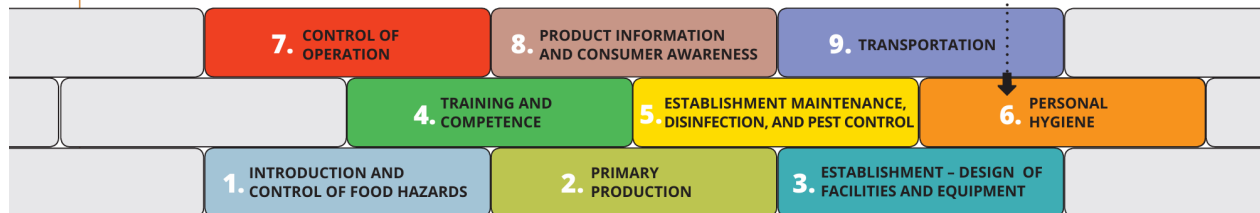
PERSONAL HYGIENE

SCOPE AND INSTRUCTIONS FOR USE

This guidance document is part of a toolbox of materials and has been developed to provide users with a good understanding of Section 6, Personal Hygiene of the Codex General Principle of Food Hygiene (CXC 1-1969).

Effective and well-established Good Hygiene Practices provide the foundation for food safety management systems. This tool divides the practices into nine sections, as illustrated by the brick schematic below. The section addressed by the current guidance document is indicated by the arrow.

You are here



Place into context

PERSONAL HYGIENE

CONTEXT

Personnel who do not maintain the appropriate degree of personal cleanliness, who have certain illnesses or conditions or who behave inappropriately, can contaminate food and transmit illness to consumers.

Food businesses should establish policies and procedures for personal hygiene, ensure that all personnel are aware of the importance of good personal hygiene, and that they understand and comply with a set of practices designed to ensure food safety.

Objectives of the section

FAO Good Hygiene Practices (GHP) and Hazard Analysis and Critical Control Point (HACCP) Toolbox for Food Safety

PERSONAL HYGIENE

CONTEXT

Objectives

Personnel who do not maintain an appropriate degree of personal cleanliness, who have certain illnesses or conditions or who behave inappropriately, can contaminate food and transmit illness to consumers through food.

Learning objectives

This document provides guidance on:

- the importance of personal health and cleanliness for those entering or working in food handling areas;
- personal practices to prevent and reduce food contamination by food handlers; and
- how hands should be washed and how frequently to wash them.

Definitions

PERSONAL HYGIENE

PERSONAL
HYGIENE

CONTEXT

Codex definitions:

Contaminant: Any biological, chemical or physical agent, foreign matter or other substances not intentionally added to food that may compromise food safety or suitability.



Contamination: The introduction or occurrence of a contaminant in the food or food environment.

Food Handler: Any person who directly handles packaged or unpackaged food, equipment and utensils used for food, or surfaces that come into contact with food and that is expected, therefore, to comply with food hygiene requirements.

Food hygiene: All conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain.

Food safety: Assurance that food will not cause adverse health effects to the consumer when it is prepared and/or eaten according to its intended use.

Map and Questions to Consider

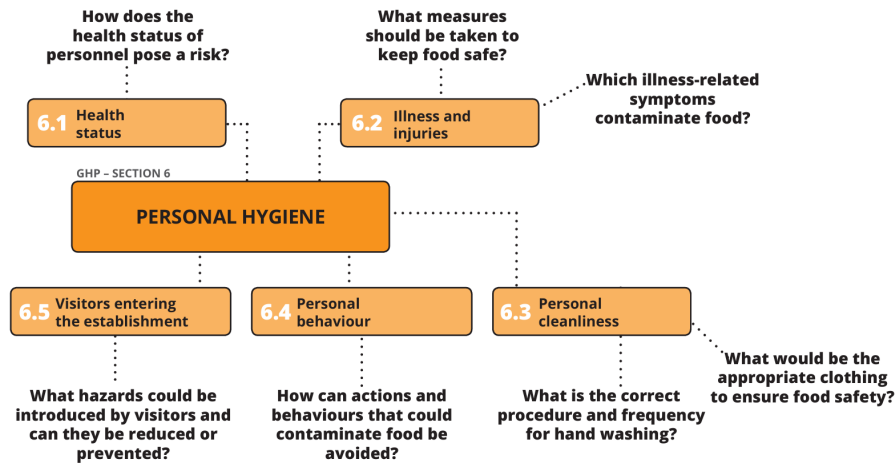
FAO Good Hygiene Practices (GHP) and Hazard Analysis and Critical Control Point (HACCP) Toolbox for Food Safety

PERSONAL HYGIENE

MINDMAP

This section of the guidance is divided into sub-sections. You can jump to a particular sub-section by clicking on it, or return to this page at anytime by clicking on

PERSONAL HYGIENE



Key points

FAO Good Hygiene Practices (GHP) and Hazard Analysis and Critical Control Point (HACCP) Toolbox for Food Safety

PERSONAL HYGIENE

6.3 PERSONAL CLEANLINESS

People can shed microorganisms that are present:

- on the skin
- under the nails
- in the nose
- on hair including beards and mustaches
- in the mouth

Personal cleanliness is key to preventing contamination from food handlers. To prevent cross-contamination, personnel working in food processing and handling environments should:

- ➔ maintain a high degree of personal cleanliness;
- ➔ wash their hands appropriately and frequently, even if wearing gloves; and
- ➔ wear suitable protective clothing, head and beard coverings, and footwear.

Personnel need the appropriate facilities (changing rooms, washrooms, hand washing stations, etc.) to achieve and maintain the required level of hygiene.

6.3 PERSONAL CLEANLINESS

Hand washing

Washing hands is the most important method for preventing food poisoning. If a worker's hands are contaminated they can pass the contamination directly on to the food products. Therefore, it is important to consider the elements required to prevent contamination, such as the correct procedure for washing hands, and frequency.

**Effective hand wash
requires three elements:**

- running potable water,
- soap, and
- something to dry hands with.



How to properly wash your hands

- 1 Wet your hands with clean, running water (warm or cold), and apply soap.
- 2 Lather your hands by rubbing them together with the soap.
Lather the backs of your hands, between your fingers, and under your nails.
- 3 Scrub your hands for at least 20 seconds.
- 4 Rinse your hands well under clean, running water.
- 5 Dry your hands using a clean towel or air dry them.

PERSONAL HYGIENE

6.3 PERSONAL CLEANLINESS

Hand washing: Frequency

Hands need to be washed regularly and immediately:

- before working with food;
- after using the toilet;
- after handling rubbish/waste;
- after smoking, coughing, sneezing, using a tissue, eating or drinking;
- after touching hair, scalp or mouth; and
- before the worker starts working with a different food product, to prevent cross contamination.

TIPS

In addition to the points mentioned above, hand washing frequency should be appropriate to the risk of contamination associated with the food. Hands should be washed more often when handling food with a high risk of contamination.



6.3 PERSONAL CLEANLINESS



Things to consider

- Everyone who enters a food handling area must wash their hands properly;
- hands should be double washed after using the toilet and before entering the food handling areas;
- hands should be washed before putting on gloves;
- change gloves as often as you would wash your hands;
- wash reusable gloves as often as you would wash your hands; and
- wash hands before starting a different task.

PERSONAL HYGIENE

6.3 PERSONAL CLEANLINESS

In cases where there is no access to clean water or soap, personnel may use **hand sanitizer with at least 60 percent alcohol**.

In cases where there is no access to soap or hand sanitizer, **rub hands under water and dry them**.

➔ **Hand sanitizers should not replace handwashing and should not be used if hands are visibly dirty or greasy.**

6.3 PERSONAL CLEANLINESS

Suitable protective clothing

A special and clean dress code is required for everyone who enters a food-handling area including:

- food handlers
- visitors
- management
- contractors
- auditors

The dress code could include:

clean protective clothing, clean shoes, hair covering, beard covering, gloves and no jewelry (including wrist watches).



Things to consider

- ensure that working clothes are clean;
- provide clothes made of light colours that will show if they are not clean;
- avoid visible zippers, since they could be a source of contamination; and
- avoid visible buttons, since they could be a physical hazard.

PERSONAL HYGIENE

6.3 PERSONAL CLEANLINESS

FBO RESPONSIBILITIES



Topic	Examples of what you should do
Protective equipment	<p>Provide food workers with garments that they can change into before entering the food handling area.</p> <p>Provide gloves, hairnets, beard nets and shoe/boot covers for workers as they enter the food handling areas.</p>
Hand washing and gloves	<p>Keep training records for handwashing and for glove use along with any infractions of the rules to assess whether re-training is required.</p>
Signage	<p>Ensure that there is adequate signage to re-enforce handwashing and glove use.</p>

Learn By Asking

PERSONAL HYGIENE

**PERSONAL
HYGIENE**

FIND OUT MORE



For additional information on the following topics related to this section, please consult the **Further reading** section accessible from the [SECTION LANDING PAGE](#).

What actions should be taken if a food handler is ill, or is suspected of being ill?

What are the possible symptoms exhibited by people who have infectious diseases?

How can food workers with cuts and wounds handle food safely?

When and how should food handlers wash their hands?

How to recognize and change bad behaviours in a food handling environment?

What are the appropriate practice and procedures to guard against hazards being introduced by visitors to the FBO?

Further Reading



Food and Agriculture Organization
of the United Nations

FURTHER READING

GHP - SECTION 6 PERSONAL HYGIENE

The selected links refer to online sources relevant to the Section on Personal hygiene of the [FAO GHP and HACCP Toolbox for Food Safety](#). The chosen links provide valuable online information to gain more in-depth topical knowledge.

(If any of the following links are broken, please notify food-quality@fao.org)

Department of Health, State Government of Victoria, Australia. 2021. DoFoodSafely
FAO. 2004. Good Practices for the Meat Industry, Section 11 – Personal Hygiene
National Disease Surveillance Centre (NDSC). 2004. Preventing Foodborne Disease: A Focus on the Infected Food Handler
US Centers for Disease Control and Prevention (CDC). 2022. When and How to Wash Your Hands Handwashing CDC
World Health Organization (WHO). 1991. Health surveillance and management procedures for food-handling personnel: report of a WHO consultation
WHO. 2010. Guide to local production: WHO-recommended handrub formulations
WHO. 2009. WHO guidelines on hand hygiene in health care



FAO GHP AND HACCP TOOLBOX FOR FOOD SAFETY

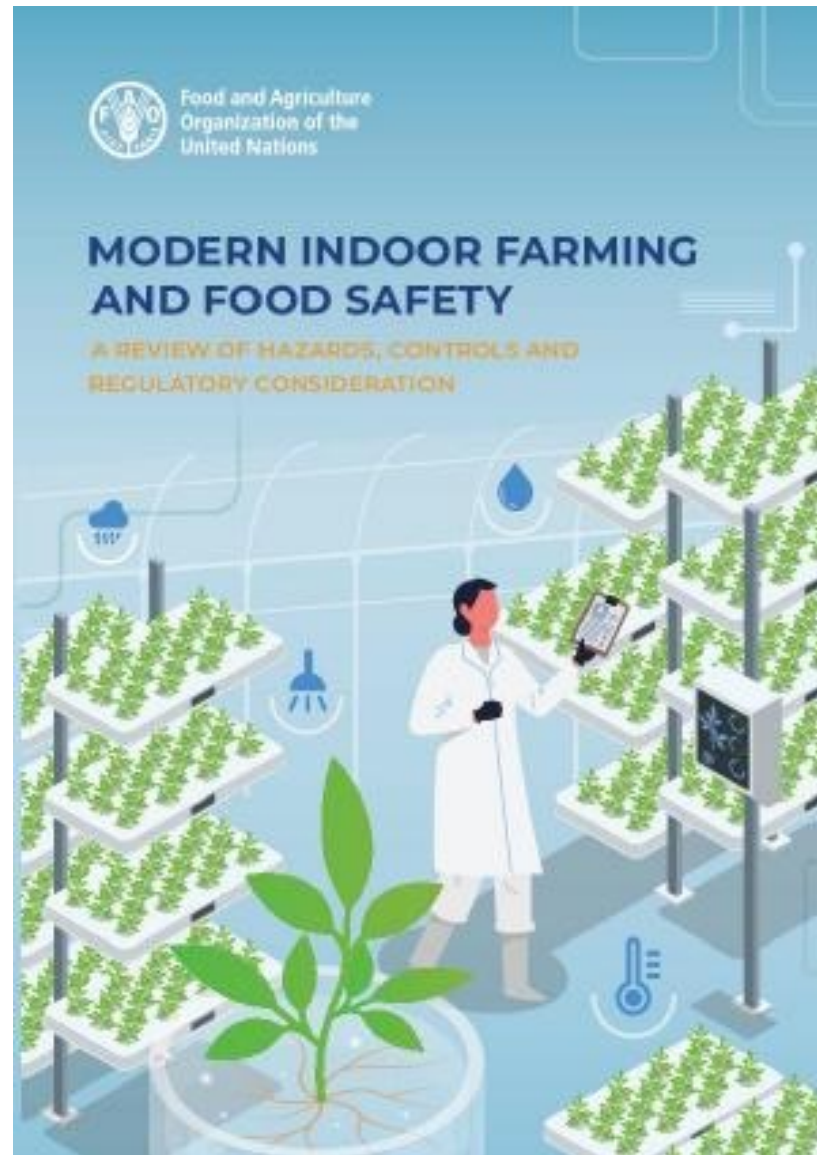
<https://www.youtube.com/watch?v=yc1fMM8iFj4>



0:00 / 4:13 • Introduction >

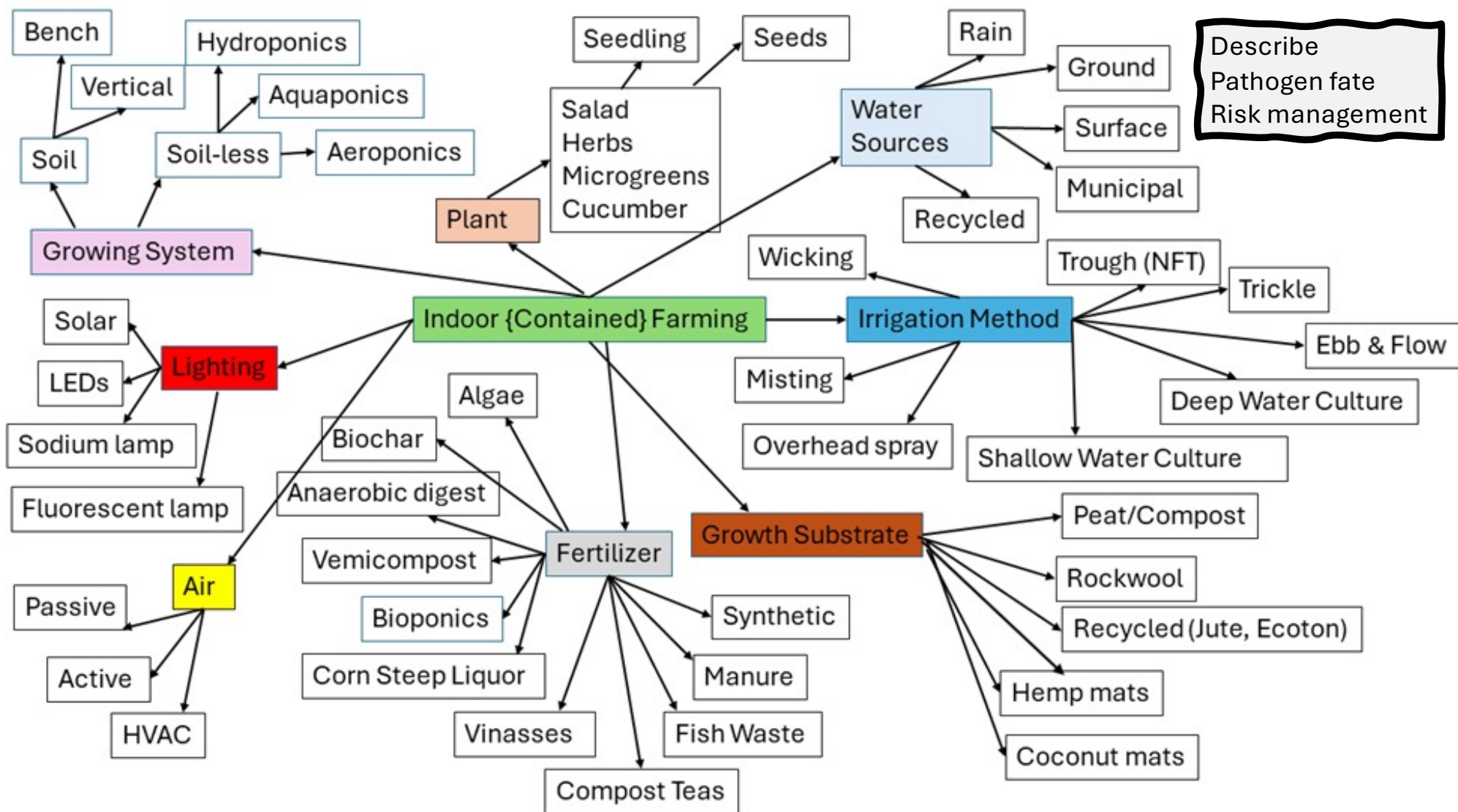


Modern indoor farming and food safety



Preparing the Guide

- History
- Benefits of Indoor Farming
- Nomenclature
- Growing Systems and Inputs
- Outbreaks, recalls and case studies
- Fate of pathogens introduced on seeds, water, growth substrate, post-harvest
- Risk Management
- Risk Communication



Final Thoughts

- Evolution of food safety training
- One doesn't fit all
- Think of different approaches to encourage food safety culture
- Elevated learning to increase knowledge and establish anchor memories
- Food safety toolbox one approach
- Make use of the tools we have (AI) customized learning
- Training is always evolving

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SEPTEMBER

- 23 ... Patience, Patients and Persistent Antimicrobial Resistance
Afro-European Teleclass With Colm Dunne, UK **POSTPONED to December 16**
- 25 ... Development of Food Safety Training Materials Through Memory Anchors and Elevated Learning
With Prof. Keith Warriner, Canada
- 29 ... *IPS Conference Broadcast – Cottrell Lecture*
Afro-European Teleclass With Dr. Neil Wigglesworth, UK
- 29 ... *IPS Conference Broadcast - From Reminder to Reflex: Making IPC Second Nature*
Afro-European Teleclass With Prof. Michael Borg, Malta
- 30 ... *IPS Conference Broadcast - Antimicrobial Stewardship: At the Heart of Infection Prevention*
Afro-European Teleclass With Prof. Martin Llewelyn, UK

OCTOBER

- 2 ... Sustainable Healthcare and IPC: Can They Co-Exist (an IFIC teleclass)
With Dr. Graham Pike, UK, and Profa. Dra. Camila Quartim de Moraes Bruna, Brazil
- 15 ... What Can Knowing Something About the Evolution of *Clostridium difficile* Teach Us About IPAC?
Australasian Teleclass With Prof. Thomas Riley, Australia
- 20 ... Special Lecture for International Clean Hospitals Day
With Prof. Didier Pittet (and friends), Switzerland
- 21 ... Discussion: Are Current Healthcare Cleaning Guidelines Sufficient to Fight Antimicrobial Resistance Spread?
With Dr. Jon Otter, UK & Dr. Curtis Donskey, US
- 28 ... Research Priorities to Strengthen Environmental Cleaning in Healthcare Facilities: the CLEAN Group
Afro-European Teleclass Consensus
With Dr. Giorgia Gon, UK

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