



Food cultures are ingredients

Need for regulatory clarity



The European Food & Fermentation
Cultures Association

The **vision** of EFFCA is to support the growth and promote the use of food cultures at global level. EFFCA cooperates, both within the European Union and globally, with a wide range of stakeholders and policy makers in the area of Food Cultures.



The **mission** of EFFCA is to promote and facilitate the dialogue between economic operators, regulatory bodies and other relevant organisations through various forums aiming at promoting the development of applications of food cultures.

Full members



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Liebefeld Kulturen®
La culture suisse

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Agroscope

Key message: food cultures are food ingredients

- **Microorganisms have played a role in the fermentation of food since ancient times, supporting food safety, flavour, texture, and shelf life.** However, such spontaneous fermentations are not controlled and their success depends to some extent on chance.
- **Food cultures are microorganisms** that are carefully selected for their beneficial properties. They allow food producers to control fermentation and optimize food quality, shelf life and safety
- Food cultures **help reduce food loss and waste**, which is a key objective of the **Farm to Fork Strategy**.
- Food cultures are clearly **defined as *food*** in the Novel Food Regulation, 2015/2283/EC. However, the **regulatory approach** of food cultures **varies between the EU member states**.
- This leads to **uncertainty among food producers** and may ultimately hamper the development of innovative solutions that can help make the EU food system more sustainable
- **Legal clarity** on the status of food cultures as food ingredients **is necessary**.



Food cultures: what are they?

- **Living microorganisms** (bacteria, yeasts, and moulds) are present in large numbers in the natural environment, including foods and the human body.
- Microorganisms can cause a spontaneous effect in food products called **fermentation**, which has been used since ancient times **to produce and preserve food** (bread, beer, wine, cheese, etc.)
- Food cultures are microorganisms that are carefully selected for their **beneficial properties** (protection, texture, taste, safety, shelf-life).
- This way, the fermentation process can be **optimised and controlled**.
- Examples of commonly used food culture genera are **lactic acid bacteria** such as *Lactobacillus* and *Lactococcus*.

Spontaneous v. controlled fermentation

If everything goes well, there is no difference. But why rely on chance?

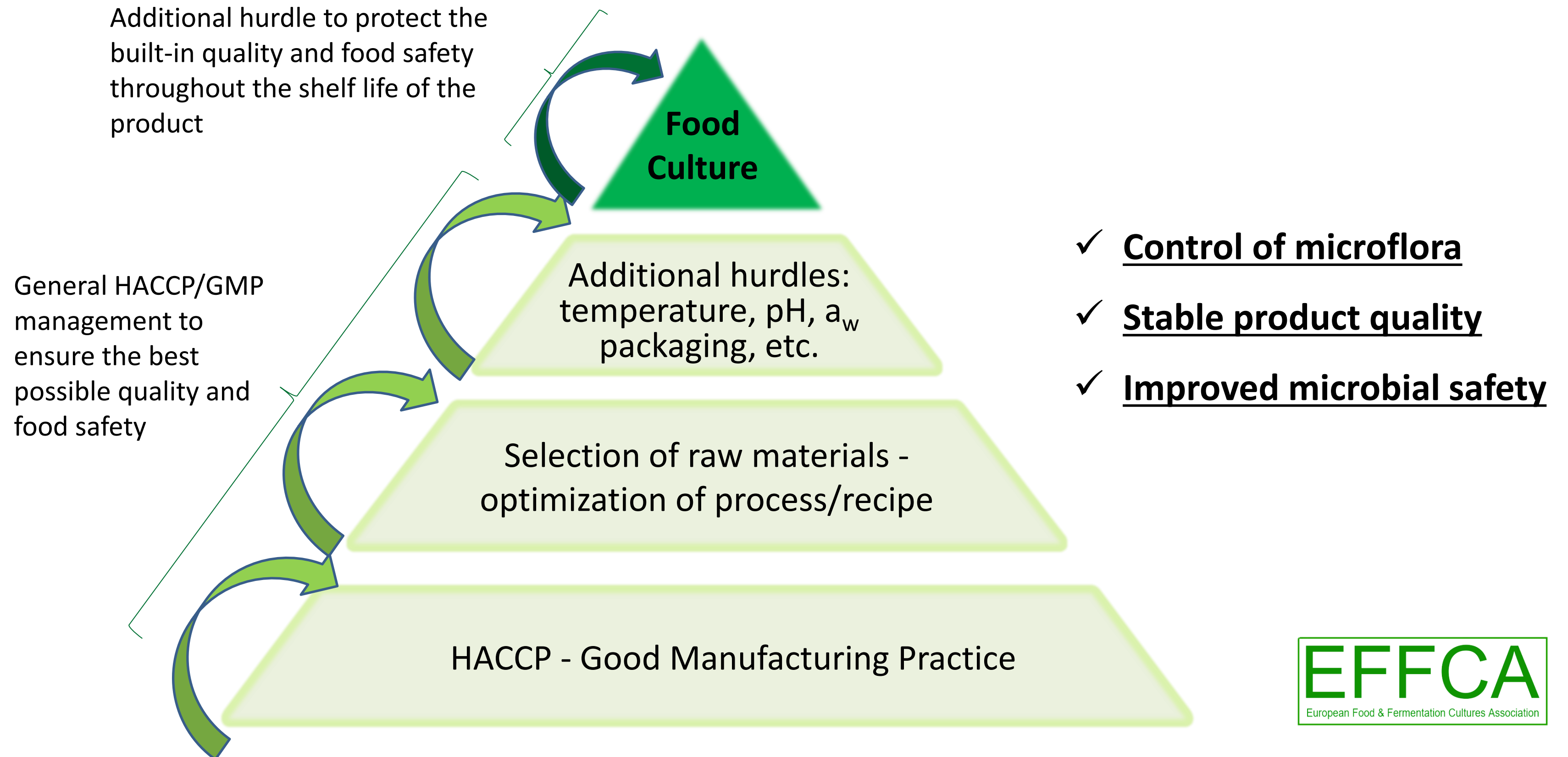
- In **un-pasteurized** food, spontaneous fermentation will **always** take place without being visible, even in the fridge.
- In the [2018 EFSA Listeria opinion](#), it is indicated that also food products that are not regarded as “fermented” undergo a (spontaneous) fermentation process due to the indigenous microbial flora/food cultures, which act as protection against pathogens before spoilage.
- Chance will determine whether or not the indigenous flora will protect against spoilage organisms and pathogens. Using food cultures **standardises** the spontaneous fermentation process and gives food operators **control** over the **safety and quality** of their food products.
- **Deliberate addition of food cultures will always result in better, controlled protection and preservation.** Indigenous microbial flora and food cultures all stem from the same pool of microorganisms found in food products or in the environment.



There is **no difference** between a fermentation that takes place with indigenous flora or with selected **food cultures** under the same conditions, except that only the latter process is **controllably safe.**

Food Cultures on top of good manufacturing principles

Food cultures add an extra hurdle to prevent the growth of unwanted microorganisms and maintain the quality and safety of the food



Food cultures: how do they work?

Food cultures function through **multiple biological interactions with the food matrix and with the flora** (indigenous and/or incidentally contaminating flora).

This process is called fermentation.

The **protective effect of fermentation** is the result of three main interaction mechanisms:


FOOD CULTURES

Occupy the physical space

Compete for nutrients

Produce inhibitory molecules
(metabolites, e.g., bacteriocins, organic acids, peptides)

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The picture shows fermented milk made with food cultures with more protective effect (bottom row) and food cultures with less protective effect (top row). Some food cultures help delay the growth of yeast and mold spoilage better than others.

Food cultures can help reduce food waste

- In its Farm to Fork Strategy, the EU Commission has proposed to set legally binding targets to **halve the per capita food waste** at retail and consumer levels by 2030 (SDG target 12.3)
- The use of selected food cultures can play a significant role in reducing food waste by prolonging the shelf-life of foods and keeping them fresh and safe for longer.

In the EU...



Food cultures: legal status in the EU

- EU food law does **not** contain a **definition of food cultures**.
- Food producers are regularly confronted with **different regulatory approaches** to food cultures between member states.
- Food cultures are recognized as **food** in the Novel Food Regulation Reg. 2015/2283 2(a)ii: *“Food consisting of, isolated from or produced from microorganism, fungi and algae”*
- Food cultures fall in the category of food ingredients, which are clearly exempt from the additive definition in the Food Additive Regulation, e.g., casein, inulin, monosaccharides.
- Because food cultures are food ingredients, they:
 - Are **subject to the General Food Law Regulation**;
 - Must be **labeled** in the **ingredients list** (as per the Food Information to Consumers Regulation).

Food cultures are food ingredients

Food Additive

shall mean any substance

not normally consumed as a food in itself

and **not** normally used as a characteristic ingredient of food,

intentionally added to food for a technological purpose...

Food cultures

are living organisms

are normally consumed as **food**

are normally used as a characteristic **ingredient** of food

are intentionally added to food for a technological purpose but function through **multiple modes of action** that depend on the food matrix

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- Food cultures are consumed as food and used as food ingredients in, e.g., yoghurt, cheese, salami, dietary supplements, ready-to-eat meals, cooked meat products, fish, etc.;
 - In 2007, the **Standing Committee on the Food Chain and Animal Health (SCoFCAH)** did not endorse the draft Criteria for the use of microbial cultures as food additives, but the minutes from the discussions are available online and can be misinterpreted by Member States as if there exists an endorsed Commission definition.



The impact of regulating fermentation with food cultures as additive use



Innovative use of fermentation technology will lose its competitive advantage in the EU

Fermentation technology using food cultures has great innovative potential as a sustainability enabler.

Pre-market approval of food cultures is disproportionate

It is a main rule of EU general food law (GFL) that food safety risks are managed by the FBO or by labelling, unless this is not possible. It would be disproportionate and contradictory to the GFL to require pre-market approval.

Legal uncertainty

If certain fermentation processes are classified as additive use and others not, uncertainty and classification issues will increasingly arise, because all fermentation processes have multiple functions in food.

Some fermented products are at risk of no longer being allowed

Additive use is prohibited in certain (fermented) food products, such as yoghurt. If certain uses of fermentation technology become regarded as additive-use, some food cultures can no longer be used in these products.

Impossible to enforce

National authorities will face difficulties in controlling/enforcing a classification of certain uses of fermentation technology as additive use. It is not possible to distinguish between added food cultures and indigenous microorganisms in food.



EFFCA Industry Guidance on quality & safety and transparent labelling proposal



SAFETY & QUALITY GUIDANCE

- An **industry guidance** documenting current practice on the **safety and quality assessment** of food cultures available upon inspection of food culture manufacturers by EU **and MS** food safety authorities

TRANSPARENT LABELLING

- On **final food label**: “**protected by fermentation**” or similar. This can be harmonised through:
 - Reg. 1169/2011 Annex VI by means of a Commission position statement, or
 - Reg. 1169/2011 Annex III by means of a delegated act.
- “Food Culture” or similar **in the ingredient list** (as is currently already in use)

Proportionate requirements to food safety and food information to consumers



EFFCA's solution:

- Would establish harmonised and proportionate quality, safety and labelling requirements to the use of fermentation technology.
- Reflects the prioritization of consumer information.
- Is consistent with existing practices in other areas of labelling (e.g., “modified atmosphere”).
- Would ensure the advantages of fermentation in line with EU Farm to Fork objectives: sustainability enablers through resource efficiency, nutritional quality and reduction of food waste.

Key takeaways



- Food cultures are food ingredients and should not be regulated as food additives
- EFFCA proposal is to establish harmonized and proportionate quality, safety and labelling requirements to the use of fermentation technology
- EFFCA members remain available to contribute to the proportionate solution



Thank you for your attention

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