

Multiple functions of Food Cultures

- *Protective cultures are and have always been an integral part of food cultures.*

Fermentation is one of the oldest food processing technologies and Food Cultures have traditionally been used to ferment raw materials such as milk, meat, fish, flour, grapes and vegetables to produce safe foods with distinctive organoleptic properties at the same time improving the shelf life and reducing food waste.

Food legislation worldwide has not specifically identified food cultures or their use. Therefore, the European Food and Feed Cultures Association (EFFCA) suggested in 2010 a definition of “Microbial Food Cultures” which has recently been updated. An extract is quoted below. The complete definition can be found here (EFFCA).

Food Cultures (FC) are safe live bacteria, yeasts or moulds used in food production, and they are in themselves a characteristic food ingredient.

FC includes, but is not limited to the terms; starter cultures, dairy starter, yogurt starters, ripening cultures, meat cultures, sausage starter, protective cultures, wine cultures, malolactic cultures, sourdough starter, probiotics, lactic acid bacteria etc.

FC preparations are traditionally used as food ingredients at one or more stages in the food manufacturing process to develop their desired metabolic activity. They contribute to one or more unique properties of the food stuff especially in regard to flavour, colour, texture, wholesomeness, health and nutritional benefits and food safety through protection and conservation.

These unique properties of the fermented food stuff are the results of the presence of FC in food and of their metabolism. Through metabolism, FC

- consume nutrients, setting up a complex system of competition for nutrients and binding sites
- produce metabolites like organic acids, hydrogen peroxide, volatile or low molecular weight compounds (such as ketones and aldehydes) or peptides (eg some bacteriocins) some of which exert inhibitory effect towards other micro-organisms.

The application of FC constitutes among other functions an additional measure to improve food hygiene by outcompeting unwanted micro-organisms and is therefore complementary to good manufacturing practices. In conclusion, inhibition along with other properties of FC is a natural consequence of FC metabolism in food which has been used traditionally worldwide.

About EFFCA

The European Food & Feed Cultures Association - EFFCA - was formed in 1992 with the objective of enhancing public knowledge of the use of microbial cultures within the food chain through accurate, fair and scientifically based information. EFFCA represents eleven manufacturing companies accounting for more than 95% of the food cultures, including probiotics, sold in Europe.