



FNQ

FOOD INCUBATOR

CREATE | INNOVATE | ACCELERATE

MODULE 3

Food Science and Safety

DAF TO PROVIDE INFORMATION

On successful completion of this module you will be able to:

The purpose of this first module is to lay the foundation for these outcomes by:

The joint food regulation system is the system of policy and laws in Australia and New Zealand relating to food. All levels of Australian and New Zealand governments are involved and have responsibilities for parts of the system: the setting of food policy; the making of food standards; and the implementation and enforcement of food regulation.

Collectively, these bodies aim to:

- protect the health and safety of consumers by reducing risks related to food
- enable consumers to make informed choices about food by ensuring that they have sufficient information and by preventing them from being misled
- support public health objectives by promoting healthy food choices, maintaining and enhancing the nutritional qualities of food and responding to specific public health issues
- enable the existence of a strong, sustainable food industry to assist in achieving a diverse, affordable food supply and also for the general economic benefit of Australia and New Zealand.

In pursuing these aims, the overriding priority will always be protecting public health and safety.

WHAT IS A FOOD ADDITIVE?

Look at the ingredient declaration on just about any product in the grocery store. Chances are you probably recognise the first few ingredients - flour, sugar, salt - because they are pretty basic ingredients that you probably have in your own kitchen. Yet as you go further down the list you start noticing some things that you don't recognise, such as monoglycerides, sorbic acid, and sodium benzoate. You may wonder what these ingredients are, what they are doing in your food, and whether or not they are safe. These types of ingredients are food additives.

A food additive is anything that affects food (directly or indirectly) or is a component of food. Legally, a food additive is anything added to food, or used in food preparation, that is not on the 'Generally Recognised as Safe' (GRAS) list. The GRAS list includes products such as flour, sugar, and salt - any ingredient that has been used for a long time and has shown no adverse effects; so food additives are ingredients that need government approval before they can be added to food.

When it comes to food additives, there is a lot of controversy over how safe they are and if they should be used. Before the government will approve a food additive, it needs to be proven not only that the additive is safe, but also that it doesn't cause any adverse effects. If further research ever shows a food additive to have adverse effects, then the government has the right to remove that additive from the approved list.

WHY ARE FOOD ADDITIVES USED?

Frequently, food companies use food additives in order to ensure that their products are stable and uniform. Most food we buy at the grocery store isn't very fresh, and one thing about food is that it never stays good for very long; so in this day and age where most of the food we eat isn't fresh, food additives are added abundantly. There are many other reasons for food additives being used as well.

Food additives can be used as a preservative, no-calorie sweetener, colour, flavour, fat replacer, nutrient addition, emulsifier, stabiliser, thickener, pH control, leavening, anti-caking agent, humectant (to hold in moisture), dough strengthener, and enzyme preparation.

EXAMPLES OF FOOD ADDITIVES

There are many food additives that are used as a preservative, such as ascorbic acid, potassium sorbate, sodium nitrite, and calcium sorbate. These food additives can prevent oxidation of fats, which cause an off-flavour to develop; prevent the growth of microbes by changing the acidity; and prevent other changes in flavour. Preservative-type food additives can be found in anything from canned fruits and vegetables to breads and meats.

Nutrients are frequently added to food, such as adding iron and thiamine into flour. Sometimes these nutrients are even mandated by law to be added. Since most nutrients are removed from flour in the processing, the government requires producers to add many of the nutrients back into the flour. Other times nutrients are added simply to increase the nutritional value of the product.



CASE STUDY

The Fermented Kitchen

The Fermented Kitchen was founded by couple; Jacob and Kristy who are striving to educate people on the importance of eating good food, balancing your gut health and improving your overall well-being.

They offer a range of tasty, mouth-watering fermented foods and drinks, all hand made and bottled right in Cairns, Far North Queensland. Their kombucha is the perfect thirst quencher and healthy 'go to' drink, jam-packed with live cultures and organic acids that help the health of your gut and mind whilst assisting in digestion and many other glorious things that will have you feeling on top of the world.

Their products are all natural, raw and unpasteurised, gluten-free and paleo friendly. Jacob and Kristy have seen a huge increase in demand and have added a range of sauerkrauts to their product range.

With the help of FNQ Food Incubator food industry experts this start-up kombucha company went from making 10 litres a week from home to 600 - 800 litres a week from the facility. They not only stock their products in 25 different health food shops, deli's, cafes and fitness centres but have also expanded their range to include sauerkraut.



