

What are the risks from food?

In the UK, we take food safety for granted, and very rarely consider what potential risks could be associated with eating. Safe food (being food that will not cause injury or illness) and is normally a given when food is bought in the UK.

This in part is down to our comprehensive food safety laws, but also in part down to retail and consumer pressures to ensure the very high standards we see today. Retailers often rely on certification schemes for food processors and fresh produce growers as a way to maintain food safety.

A Brief History of Food Safety

Food safety issues have been around for hundreds of years. There is documented evidence dating back to 6000 BC highlighting spoilage of food and the problems of disease transmission to humans, predominantly as a result of poor preparation and storage.

At this time subsistence farming meant families only produced enough food for themselves therefore consumer protection was unwarranted. However, as society advanced, food began to be prepared, produced and marketed. It was at this point that it became essential for consumers to be protected from hazards instigated by others either accidentally or deliberately.

Some of the earliest forms of adulterants were found in bread flour, which was commonly bulked up with sand, ash, sawdust and mustard flour.

Food Safety Legislation

The first law in British history to regulate the production and sale of food began in 1266. The Assisa Panis et Cervisiæ, or Assize of Bread and Ale was developed in late Medieval English Law to regulate the price, weight and quality of manufactured bread and beer.

A popular method of testing ale quality was conducted by Ale Connors, who were the equivalent of the modern Customs and Exercise. The ale would initially be tasted and then poured on to a wooden bench or stool. The inspector would then sit on the bench wearing leather breeches. After about a minute, he would stand up and see if the ale stuck to his breeches. If the ale stuck, it was considered good quality.

In the Early 20th Century foodborne illness became more broadly recognised and as a result, statutes connected to food safety and food quality were introduced. These included The Milk and Dairies Act 1914, which covered the production and sale of clean and safe milk for human consumption. Compositional requirements had also been introduced for some foods.

Move forward to 1990 and the introduction of the Food Safety Act which brought with it a wealth of additional legislative requirements geared towards food safety, food quality and trading standards.

Some of the most significant changes within food law have been introduced over the last 20 years. The European Union approved the General Food Law Regulation in 2002 (Regulation (EC) No 178/2002), which created new laws on safety, traceability, withdrawal and recall requirements. In order for the UK to enforce this new regulation, the General Food Regulation 2004 was enacted.

Hazard Analysis Critical Control Point (HACCP) has become a vital food safety and hazard prevention tool within the whole food supply industry. As a result, the European Union adopted the Hygiene of Foodstuffs Regulation (EC) No 852/2004, which introduced HACCP as a legal requirement throughout Europe for the first time.

Is this relevant to Fresh Produce?

When you grow fresh produce what are the food safety risks? In the food industry we have 4 main hazard types of concern. These are:

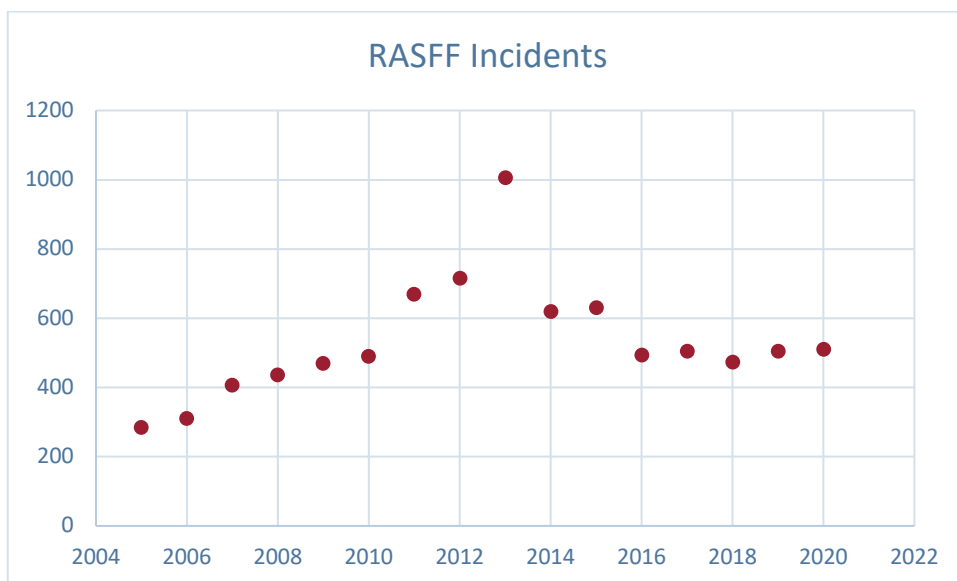
- Microbiological – mainly bacteria that can come from soil, animal manure, animals themselves, water for irrigating or washing them and people.
- Chemicals – mainly pesticides that are applied to control pests and diseases and heavy metals that are found in the soil.
- Physical contamination – such as stones that can be entrapped in root crops, leaves and twigs, or pieces of glass and metal from damaged equipment.
- Allergens – there are 14 legally declarable allergens in the UK. These include from a fresh produce point of view tree nuts, cereals containing gluten, celery/celeriac, mustard and lupins.

In addition, there is the potential for malicious contamination and food fraud which as well as causing food safety issues can also cause economic fraud.

Well, how bad is it?

It was estimated in 2015 that about one in every 10 people around the world is sickened by foodborne disease each year. Of those 600 million people, 420,000 die as a result. These numbers are the first global estimates (conservative ones) of foodborne illnesses and were calculated by the World Health Organization (WHO).

The EU publish a database on incidents that relate to food safety. The graph below shows the number of incidents related to fruit and veg over the past 15 years.



A scientific review published by the Food Standards Agency (FSA) in 2020 estimated that around 2.4 million cases of foodborne illness occur every year in the UK. This is an increase from the 2009 estimate of approximately one million cases.

The new figures are thought to mainly be due to better diagnosis and linking illness to the source rather than an increase in total illness, or any new risk to public health.

With specific emphasis on norovirus in food scientists have determined that:

The FSA has also published a five-year study into the extent of norovirus in food carried out by UK scientists, and a paper which reviews and updates the assessment developed during that project.

- There are 380,000 estimated cases of norovirus linked to food occur in the UK every year.
- Eating out accounts for an estimated 37% of all foodborne norovirus cases, and takeaways account for 26% of cases.
- Open-headed lettuce (retail) accounts for 30% of cases, raspberries (retail) account for 4% of cases, and oysters (retail) account for 3% of cases.

Summary

As can be seen from the above, fresh produce is linked to food poisoning and can cause deaths. However, with the right precautions, the fresh produce you grow, harvest and sell can be safe.

Safe food means happy, healthy customers and a good image for your business.

Getting it wrong can lead to bad publicity, fines and even imprisonment.

In the next newsletter we'll talk specifically about microorganism in fresh produce and some simple ways to minimise the risk.