



Bacteria

single-celled microorganisms that have food, moisture, time, specific temperatures, acidity, and oxygen requirements to multiply in foods.

Spore

the dormant state of some bacteria that make them resistant to hot (cooking), cold (refrigeration) dry, or acidic conditions.

BACTERIA

Bacteria are single-celled microorganisms that have food, acidity, temperature, time, oxygen, and moisture requirements to multiply in foods. Bacteria can cause foodborne infections, intoxications, and toxin-mediated infections. In food establishments, most bacteria are destroyed or their growth is controlled by:

- Monitoring time and temperature
- Good personal hygiene practices
- An effective cleaning and sanitation program
- Measures that minimize cross contamination

Bacteria grow, reproduce, and produce wastes just like other living organisms. Some bacteria have the unique ability to form structures called “**spores**.” Spores help bacteria survive when their environment is too hot (cooking), cold (refrigeration), dry, acidic, or when there is not enough food. Spores are not able to grow or reproduce.

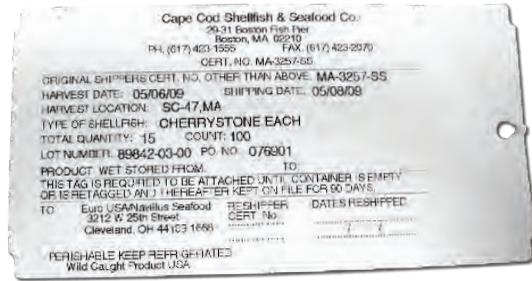
However, when conditions become suitable for growth, a spore can “germinate” much like a seed and then the bacteria cell can begin to grow.

SPOILAGE AND DISEASE-CAUSING BACTERIA

Bacteria are classified as either spoilage or pathogenic (disease-causing microorganisms).



This can be accomplished by using an approved record-keeping system that keeps shellstock tags or labels in sequence based upon the date when, or dates during which, the shellstock are sold or served. Shellstock from one tagged or labeled container must not be commingled with shellstock from another container before being ordered by the customer. Commingling is combining shellfish harvested on different days or from different growing areas as identified on the tag or label, or combining shellfish from containers with different container codes or different shucking dates.



Example of shellfish tag

FRUITS AND VEGETABLES

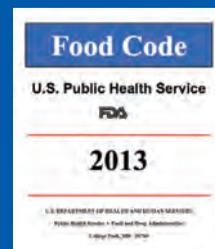
Most fruits and vegetables have a short shelf life. They continue to ripen even after they are picked. Therefore, they may become over ripe if not properly handled. Microorganisms found in water and soil can also cause fruits and vegetables to spoil. Fruits and vegetables hold their top quality for only a few days.

Purchase raw fruits and vegetables from approved sources and wash them thoroughly to remove soil and other contaminants before they are cut, combined with other ingredients, cooked, served, or offered for human consumption in a ready-to-eat form.



ACCORDING TO THE FOOD CODE...

The FDA considers sprouts, cut melons, cut tomatoes, and cut leafy greens to be TCS foods and requires them to be handled in the same manner as other TCS items.



Similarly, the retail food industry embraces this concept with Good Retail Practices (GRPs). GRPs are preventive measures that include practices and procedures which effectively control the introduction of pathogens, chemicals, and physical objects into food. In food establishments, GRPs are the key prerequisites to instituting a HACCP plan or risk control plan. Prerequisite programs may include such things as:

- Vendor certification programs
- Training programs
- Allergen management
- Buyer specifications
- Recipe/process instructions
- First-In-First-Out (FIFO) procedures
- Other Standard Operating Procedures (SOPs)

Basic prerequisite programs should be in place to:

- Protect products from contamination by biological, chemical, and physical food safety hazards
- Control bacterial growth that can result from temperature abuse
- Maintain equipment

FOOD RECALLS

On occasion, contaminated products may be received from manufacturers, slaughterhouses, or farms that can present a risk to your customers. In these situations, the company that supplied the contaminated product may put a food recall in place. A food recall is a process that is implemented to remove a defective product that presents a risk of injury or gross deception. An important part of a recall procedure is to communicate information about the recalled products to staff that work in the facility so that the product is not used (i.e., restaurant), and to customers that may have purchased the product and taken it home (supermarket). Another important part of a food safety management system is to develop an effective food recall procedure.



FOOD RECALL

a process that is implemented to remove a defective product that presents a risk of injury or gross deception.