FOODSPHERE

Food Manufacture

Temperature Control

Lesson 2

Understand the importance of temperature control in food manufacturing to ensure food safety is never compromised.
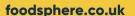
Cooking is also known as heat processing this is when the product core temperature is increased to ideally 70°C or above.

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The product should hold a core temperature of 70°C for at least 2 minutes.

Other combinations of temperature and times are:

- Core temperature of 60°C for 45 minutes

- Core temperature of 65°C for 10 minutes

- Core temperature of 70°C for 2 minutes

- Core temperature of 75°C for 30 seconds

- Core temperature of 80°C for 6 seconds

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Most types of meat should be extensively cooked through to prevent food poisoning. Especially poultry, pork, duck, mince meat, kidneys and liver.

An exception to this rule is beef steaks which are eaten rare. The beef meat contains microbes on the surface, but they do not penetrate the dense meat. When the beef is cooked rare the microbes on the surface are killed. However rare meat must be cooked following strict food hygiene practices.

Other ways of checking meat is cooked thoroughly, is checking it is steaming hot all the way through, any juices run clear and that there are is rare pink meat inside.

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There are lots of different methods of heat processing food such as:

- Blanching
- Pasteurisation
- Sterilisation
- Evaporation
- Dehydration
- Smoking
- Baking
- Roasting
- Frying

Another reason for heat processing a product can be to allow a product such as chocolate to be transported through pipelines. If the temperature changes it will make the viscosity of the product change and the flow rate will change. This can cause a decreased optimum production output. Sensors on temperature control systems are used to prevent this from occurring.

Once a product is cooked and it needs to be kept hot, it must be kept at a temperature of 63°C or above. If the temperature drops below 63°C it can only be used for up to 2 hours. After 2 hours it must be disposed of.

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Revision Activity 2

List two methods of heat processing?