

# Food Hygiene & Safety

## Case study: A cautionary tale Student Worksheet

### What happened

The date is 1<sup>st</sup> October 2008, the place is Brussels in Belgium. A 20 year old man became ill and died after eating leftovers, a spaghetti meal with tomato sauce that had been left unrefrigerated at room temperature for 5 days and reheated in the microwave before consumption.

The man experienced symptoms within 30 minutes including headache, abdominal pain, and nausea. He proceeded to vomit for several hours and experienced bouts of watery diarrhoea, consuming only water to rehydrate. The man then later died in his sleep, his death occurred at approximately 4:00 AM, providing a timeline of 10 hours between consumption of the spaghetti meal and death.

### The culprit: *Bacillus cereus*

*Bacillus cereus* is a type of bacteria that is able to form 'spores' that can survive heat and cooking. Spores are often activated during cooking and grow best at temperatures above 10°C. If kept at warm conditions for a length of time, the bacteria can produce a toxin that is able to survive high temperatures of cooking.

Foods that can commonly be contaminated with *B.cereus* include rice, spices, and cereals including pasta, and have also been associated with meat, vegetables, dairy, soups and sauces, as it originates from soil.

### What caused the infection

In the process of cooking and slowly cooling the spaghetti at room temperature, *B.cereus* spores were provided with the right conditions to grow. By leaving the spaghetti at room temperature for 5 days, harmful toxins were produced that were not killed by reheating.



## Questions:

1. Explain how the handling of leftovers in this case study led to the sudden death of a young person
2. What can you do to prevent *B. cereus* infection?

