

CFS announces results of targeted surveillance on Bacillus cereus and Clostridium perfringens in ready-to-eat food

The Centre for Food Safety (CFS) of the Food and Environmental Hygiene Department today (July 17) announced the results of a recently completed targeted food surveillance project on *Bacillus cereus* and *Clostridium perfringens* in ready-to-eat food. None of the samples taken were found to be unsatisfactory, according to the Microbiological Guidelines for Food.

"A total of 300 samples of ready-to-eat food were collected from different retail outlets including online retailers and food factories for testing of *Bacillus cereus* and *Clostridium perfringens* this year. The samples included dim sum, rice, noodles, pastries, soya products, stewed meat and meat sauce," a spokesman for the CFS said.

Bacillus cereus is commonly found in the environment. It can form spores which are able to resist heat and survive cooking temperatures. *Bacillus cereus* can produce different toxins causing two types of food poisoning, with emetic intoxication (causing vomiting) being caused by heat-stable toxins in food, and diarrhoeal being caused by ingestion of a large amount of *Bacillus cereus* that can produce toxins in the intestine. As the production of preserved bean curd requires fermentation, *Bacillus cereus* will multiply when production is not hygienic or storage is not proper.

Cooking heat can activate the germination of *Clostridium perfringens* spores, which survive in anaerobic conditions like inside internal cavities, rolls of meat, stuffed poultry, or gravies. The organism can then multiply in the area where the oxygen level is low. Cooling of food at ambient temperature for a long period also allows rapid multiplication of the bacterium. Hence, foods prepared in bulk, especially cooked meat, poultry dishes and juices, which are stored at ambient temperatures with a long cooling period after cooking are at high risk. In food poisoning caused by *Clostridium perfringens*, common symptoms include sudden abdominal pain, nausea and diarrhoea.

The spokesman reminded the trade and the public not to take the risk lightly. They should always maintain good personal and food hygiene to ensure food safety. When handling food that is not to be consumed immediately, keep it at a safe temperature (above 60 degrees Celsius or at 4 degrees C or below). Consume perishable prepackaged food and beverages promptly after opening or reheating and avoid prolonged storage at ambient temperatures. Reheat food thoroughly with the core temperature at 75 degrees C or above. If cooked foods are to be cooled, the trade should adopt measures to shorten the required cooling time to restrict the growth of *Bacillus cereus* and

Clostridium perfringens in heat treated food. For example, install specific rapid chilling equipment, divide food into smaller portions and place it in shallow containers and in an ice bath. They should also closely monitor the refrigerator temperature and maintain a temperature log. Cross-contamination of food during cooling and storage should be prevented. The trade should also observe the Good Hygienic Practices in each stage of production to ensure safe and proper processing of the food and to comply with the limits stipulated in the Microbiological Guidelines for Food.