

---

# Targeted Food Surveillance — Nitrate and nitrite in meat, meat products and cheese

---

Centre for Food Safety

Food and Environmental Hygiene Department

November 2009

# Introduction

## ■ Background

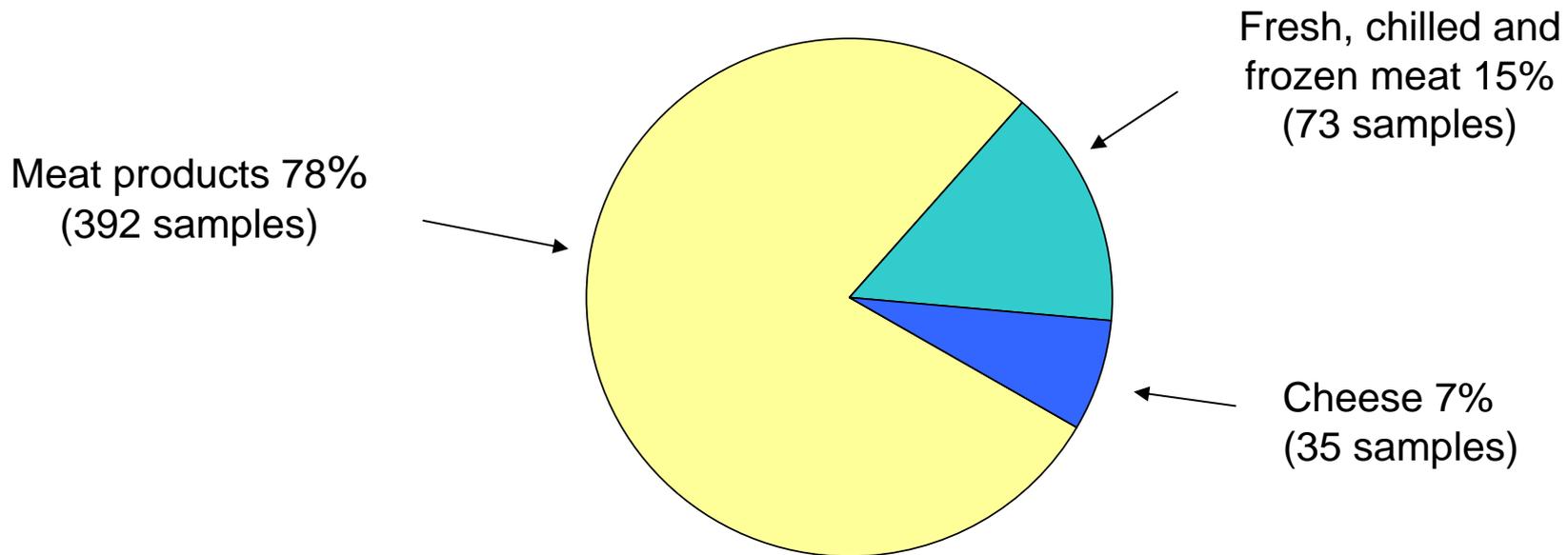
- ❑ Nitrate and nitrite are preservatives commonly used in meat curing and cheese making as they can inhibit the growth of bacteria. However, their use must be within legal limits. Under the law, they are not allowed to be added into fresh, chilled and frozen meat.
- ❑ Excessive intake of nitrite may affect the oxygen-carrying capacity of red blood cells to cause methaemoglobinaemia.

## ■ Objective

- ❑ The Centre for Food Safety conducted a targeted food surveillance project to assess the occurrence of nitrate and nitrite in meat, meat products and cheese.

# Types of samples

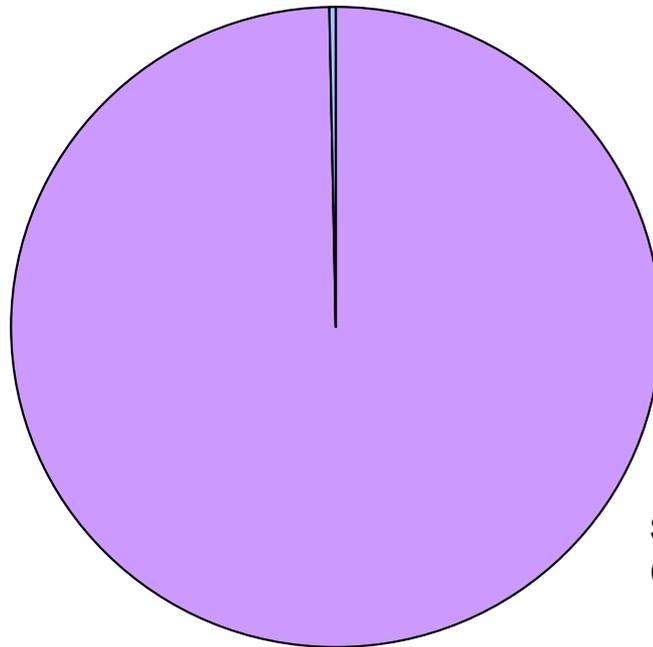
- 73 fresh, chilled and frozen meat, 392 meat product (such as bacon, ham, hamburger, preserved meat, Chinese preserved sausage, dim sum, meat ball, canned meat, Siu Mei and Lo Mei) and 35 cheese samples were collected for testing.



# Overall result

- Overall satisfactory rate was 99.8%.

Unsatisfactory 0.2%  
(1 sample)



Satisfactory 99.8%  
(499 samples)

# Unsatisfactory sample

- 1 sample was found unsatisfactory.

Sample	Unsatisfactory testing item	Result
White Cabbage and Pork Dumpling	Nitrite	370 ppm <sup>(1)</sup>

<sup>(1)</sup> A commonly used preservative but exceeds permitted level in this kind of food. Consumption of the concerned product is unlikely to cause acute health effects in the general public. However, some people such as those with G6PD Deficiency may be more sensitive to nitrite and it may affect the oxygen-carrying capacity of red blood cells to cause methaemoglobinaemia. Long term excessive intake of nitrite may increase the risk of cancer.

# Follow up actions

- Issue warning letter and requested the manufacturer to follow up.
- Take follow up sample.
- Take prosecution action if there is sufficient evidence.

# Advice for trade

- Food manufacturers should adhere to the "good manufacturing practice" (GMP) for manufacturing food products. They should not abuse the use of food additives.
- Use of preservatives is regulated under the Preservatives in Food Regulations, Cap. 132BD. Non-permitted or excessive use of nitrate and nitrite is not allowed. Contravention of the law could lead to a maximum fine of \$50,000 and six months' imprisonment.
- The trade should take note of the regulatory requirements regarding the use and labelling of food additives and comply with the related legislation.

# Advice for consumers

- Take a balanced diet so as to avoid excessive exposure to food additives from a small range of food items.
- Purchase meat, meat products and cheese from reliable shops.
- Do not buy meat with abnormal colour.