

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

Centre for Food Safety

Food and Environmental Hygiene Department

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# Introduction

## ■ Background

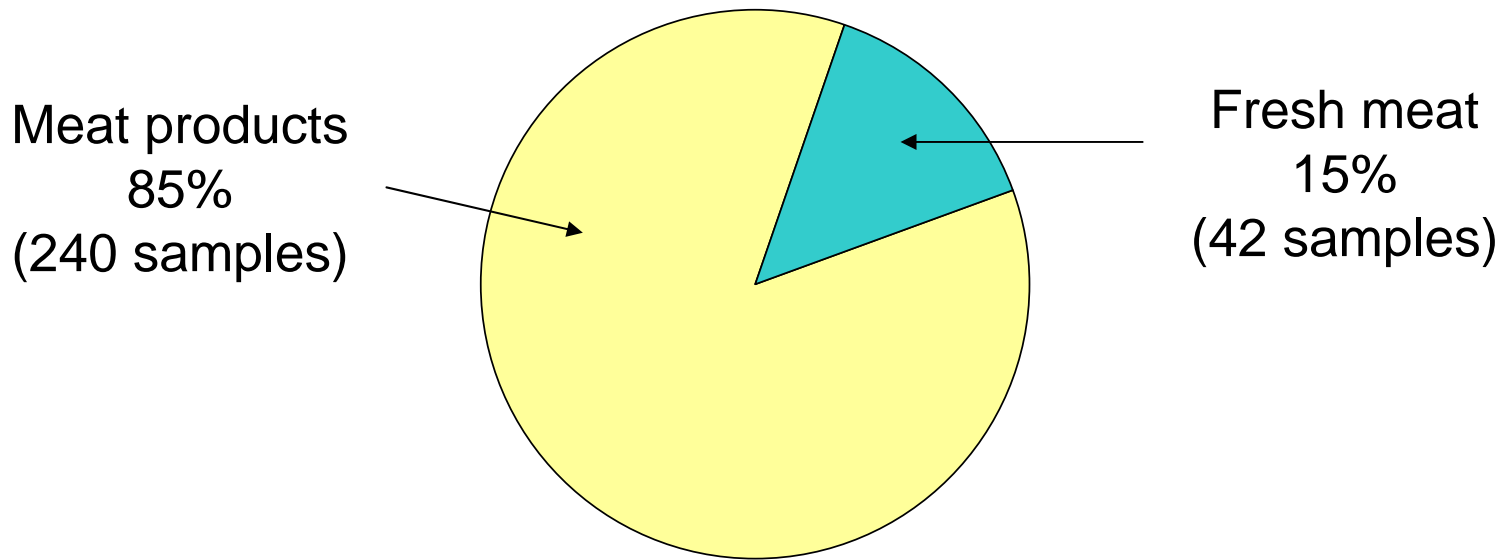
- ❑ Nitrate and nitrite are preservatives commonly used in meat curing as they can inhibit the growth of bacteria, especially the life-threatening bacterium *Clostridium botulinum*. However, their use must be within legal limits. Under the law, they are not allowed to be added into fresh meat.
- ❑ Excessive intake of nitrite may affect the oxygen-carrying capacity of red blood cells to cause a blood disease, methaemoglobinaemia, characterized by breathlessness and bluish discolouration of skin.

## ■ Objective

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

# Types of samples

- 42 fresh meat and 240 meat product samples (such as bacon, ham, hamburger, preserved meat, Chinese preserved sausage, beef ball, Siu Mei and Lo Mei) were collected for testing.



# Overall result

- Overall satisfactory rate was 99%.

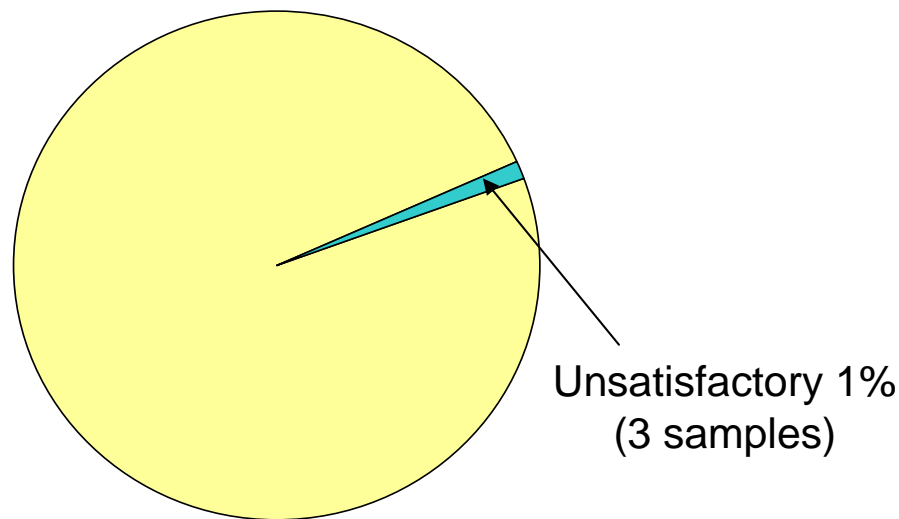
## Fresh meat

- All results were satisfactory.
- Nitrate and nitrite were not detected



## Meat products

- Satisfactory rate was 99%.
- 3 unsatisfactory samples



# Unsatisfactory samples

- 3 samples of meat products (2 dried pork slice and 1 pork floss) were found to contain nitrate exceeding the legal limit (500 ppm) at levels of 710, 2100 and 870 ppm respectively.
- Based on the detected levels of nitrate, adverse health effect upon normal consumption is unlikely.

# Follow up actions

- Traced the source of food in question;
- Asked concerned retailers to stop selling and to dispose of those food items;
- Issued warning letters;
- Requested concerned suppliers to recall the affected products;
- If there is sufficient evidence, the Centre for Food Safety will take prosecution action.

# 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.
- Under existing legislation, use of nitrate and nitrite in fresh meat or use of excessive nitrate (500 ppm) or nitrite (200 ppm) in preserved meat is not permitted. 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 fresh meat and meat products from reliable shops.
- Do not buy meat with abnormal colour.