2007 Food Safety Report No. 2

Centre for Food Safety
Food and Environmental Hygiene Department

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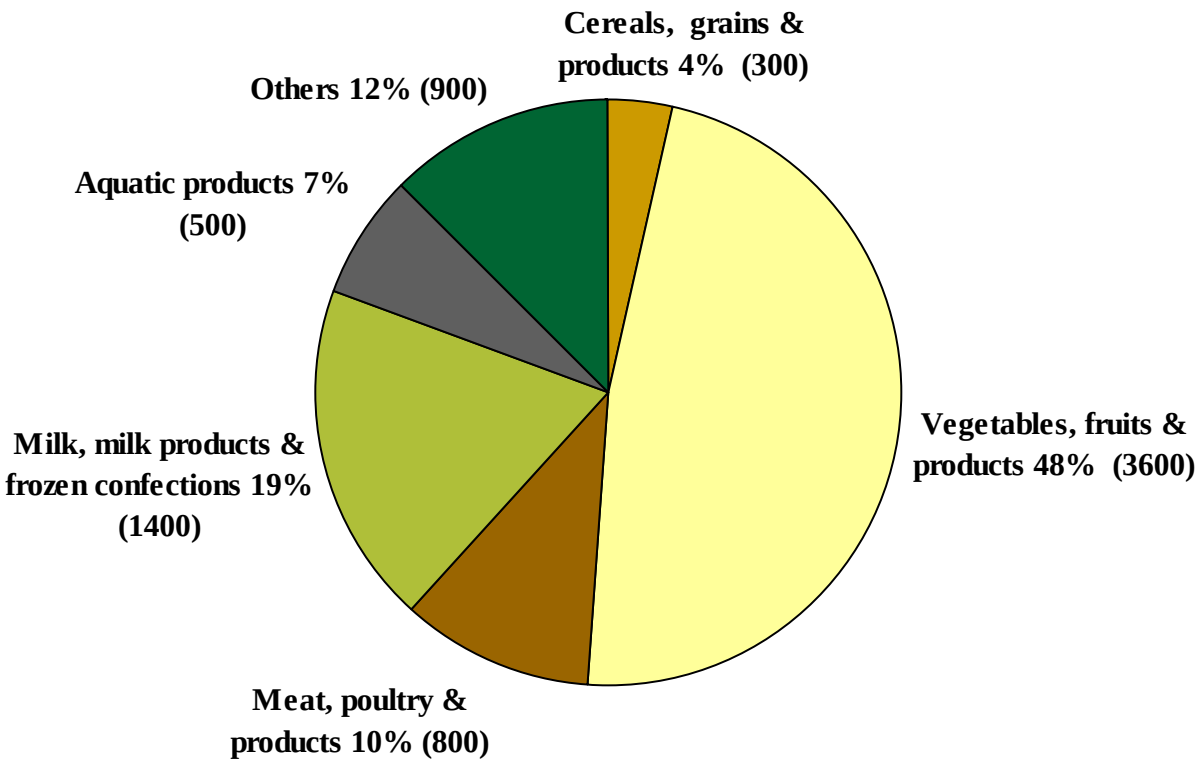
食物環境衞生署
Food and Environmental Hygiene Department
食物安全中心
Centre for Food Safety

Introduction

- Under the food surveillance programme of the Centre for Food Safety (CFS), food samples are collected at import, wholesale and retail levels of the market for microbiological and chemical analysis.
- Starting from 2007, CFS has adopted a more targeted and client oriented three-tier approach to food surveillance, consisting of:
  - Routine food surveillance
  - Targeted food surveillance
  - Seasonal food surveillance
- In March and April 2007, CFS had conducted the following two targeted food surveillance projects in addition to the routine surveillance:
  - Nitrates and nitrites in meat and meat products
  - Formaldehyde in noodle fish
- This presentation gives an account of the food surveillance sample analyses that were completed in March and April 2007.

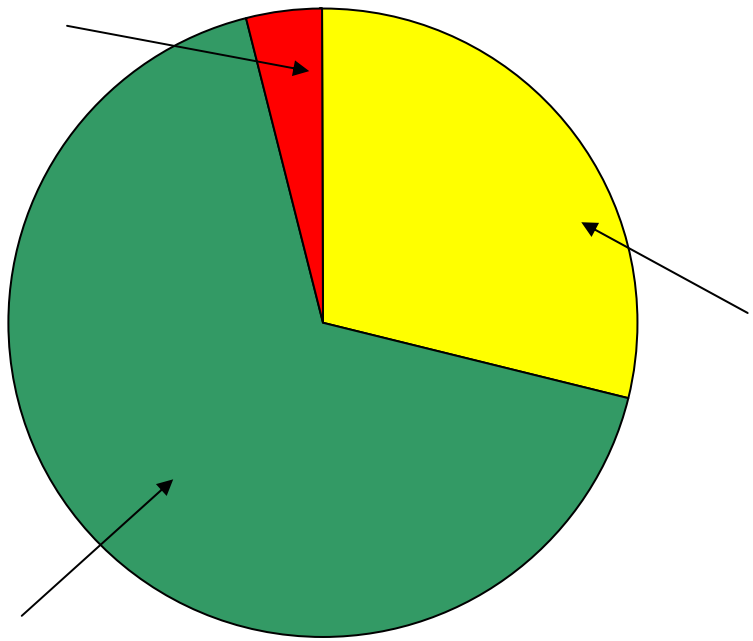
Types of food tested

- About 7500 food samples of various food groups were tested



N.B.: Figures in brackets are rounded

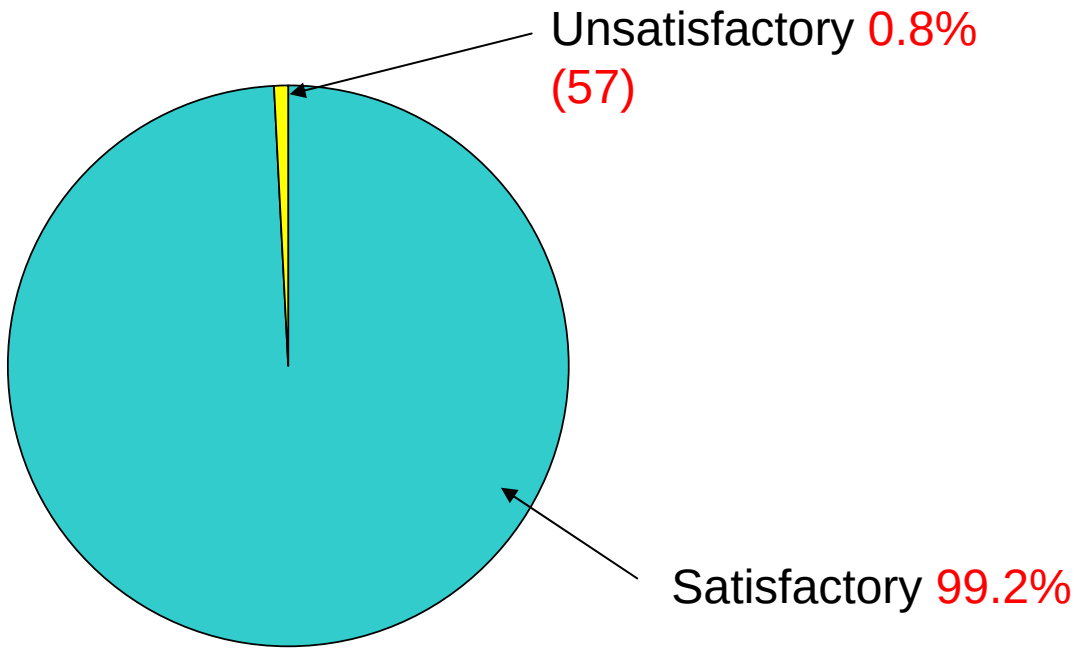
Types of testing



N.B.: Figures in brackets are rounded

Overall results

- Overall satisfactory rate was 99.2%.
- Totally 57 unsatisfactory samples



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Unsatisfactory samples

- 57 unsatisfactory food samples included 26 previously announced results.
- The remaining 31 unsatisfactory samples included:

Food Groups	No. of samples taken	No. of unsatisfactory samples
Vegetables, fruits & products	3600	10
Meat, poultry & products	800	14
Aquatic products	500	5
Others	900	2

1. Vegetables, fruits & products

- About 3600 samples with overall satisfactory rate 99.7%
- Analysis included:
  - Microbiological tests
  - Chemical tests
    - > 100 types of 4 major groups of pesticides
      - organo-chlorine (e.g.,DDT, HCH)
      - organo-phosphorous (e.g., methamidophos & isocarbophos)
      - N-methlycarbamates (e.g., carbofuran)
      - pyrethroids
    - Metallic contamination (included cadmium, arsenic and lead)
    - Preservatives (included sulphur dioxide, sorbic acid and benzoic acid)
    - Colouring matters
    - Sweeteners

1. Vegetables, fruits & products (Cont'd)

Pesticides

- 5 unsatisfactory samples.

Samples (no.)	Unsatisfactory testing item	Results
Vegetables (4) (Celery, garlic, Indian lettuce, Swiss chard)	Methamidophos	2 - 3 ppm[1]
Tangerine	Triazophos	1.2 ppm[1]

[1]The levels are low and should not pose significant health effect.

1. Vegetables, fruits & products (Cont'd)

Preservatives

- 5 unsatisfactory samples.

Sample (no.)	Unsatisfactory testing item	Result
Pickled radish (5)	Benzoic acid Sorbic acid (preservative)	1100 – 1600 ppm[1] 1100 – 1200 ppm[1]

[1] ● Commonly used preservatives. The levels are low and should not pose significant health effect.
● They were of the same brand taken from an importer on the same occasion. The remaining stock had been disposed.

Colouring matters

In response to public concern on the suspected use of colouring matters in orange, 25 orange samples were taken for testing of colouring matters. All the results were satisfactory.

2. Meat, poultry & products

- About 800 samples and overall satisfactory rate was 97.8%.
- Analysis included chemical tests for
  - veterinary drug residues
  - preservatives
  - colouring matters and other food additives
- Microbiological tests

Veterinary drug residues

- 1 unsatisfactory sample

Samples (no.)	Unsatisfactory testing item	Results
Pork (1)	Clenbuterol	8.6 ppb[1]

[1] ● Non-permitted veterinary drug. The level is low and should not pose significant health effect.
● Sample was taken from an illegal consignment at import. The rest of the consignment was disposed.

2. Meat, poultry & products (Cont'd)

Preservatives

- 3 unsatisfactory samples announced previously as results of targeted surveillance on nitrates and nitrites in meat and meat products.
- There were another 13 unsatisfactory samples:

Samples (no.)	Unsatisfactory testing item	Results
Meat products (5) (dried sliced pork, dried pork floss, satay pork stick, beef nuggets)	Sorbic acid	110 - 500 ppm[1]
Meat products (2) (dried pork floss, beef ball)	Benzoic acid	59 - 100 ppm[1]
Pork (6)	Sulphur dioxide	33 - 220 ppm[2]

[1] The levels are low and should not post significant health risk.

[2] ● Of the 6 pork samples,4 were taken from the same shop on two occasions. The other 2 samples were taken from another shop on one occasion.

● Use of preservative in meat is prohibited. The level is low and should not pose significant health effect.

3. Aquatic products

- About 500 samples. Overall satisfactory rate was 94.6%.

- Analysis included
  - Microbiological tests
  - Chemical tests (e.g. veterinary drug residues, colouring matters, metallic contamination and preservatives).

3. Aquatic products (Cont'd)

Veterinary drug residues

- 13 unsatisfactory samples announced previously as results of surveillance on veterinary drug in fresh water fish and turbot fish.

- There were 3 other unsatisfactory fish samples.

Samples (no.)	Unsatisfactory testing item	Results
Grass carp (2)	Nitrofurans	3.7 & 8.5 ppb[1]
Turbot fish (1)	Nitrofurans	10 ppb[1]

[1] The levels are low and should not pose significant health effect.

3. Aquatic products (Cont'd)

Preservatives

- 9 unsatisfactory samples announced previously as results of Targeted Surveillance on Formaldehyde in Noodle Fish.

- There were 2 other unsatisfactory (follow-up) samples.

Samples (no.)	Unsatisfactory testing item	Results
Noodlefish (2)	Formaldehyde	150 & 430 ppm[1]

[1] The levels are low and should not pose significant health effect.

3. Aquatic products (Cont'd)

Paralytic shellfish poisoning toxin

- 1 scallop sample found to contain high level of paralytic shellfish poisoning toxin (1922 μg/100g) has been announced previously.

Metallic contamination

- All samples tested for metallic contamination were satisfactory.

4. Milk, milk products & frozen confections

- About 1400 samples which included ice-cream, cheese, yogurt, milk and milk products, etc.

- Analysis included
  - Microbiological tests (e.g., *Salmonella* and *Listeria monocytogenes*)
  - Chemical tests (e.g. preservatives, colouring matters, sweeteners)

- All results were satisfactory.

5. Cereal, grains and products

- About 300 samples including bread, crackers, rice and noodles, etc.
- Analysis included microbiological and chemical tests including:
  - sweeteners
  - colouring matters
  - pesticides
  - preservatives
- All results were satisfactory.

6. Other food commodities

- About 900 samples. Overall satisfactory rate was 99.8%.

Snacks

- Sweeteners, colouring matters, preservatives

Dim sum

- Pathogens, preservatives, colouring matters, sweeteners

Condiments and sauces

- Pathogens, colouring matters, metallic contamination, heavy metals, preservatives

Sugar and sweets

- Pathogens, sweeteners, colouring matters, preservatives

6. Other food commodities (Cont'd)

Sushi and sashimi

- Pathogens

Beverages

- Pathogens, colouring matters, pesticides, sweeteners, preservatives

Mixed dishes

- Pathogens, colouring matters, preservatives

Egg and egg products

- Pathogens and colouring matters (including Sudan dyes)

Others

6. Other food commodities (Cont'd)

Preservatives

- 1 unsatisfactory sample

Sample (no.)	Unsatisfactory testing item	Result
Steamed dumpling (1)	Benzoic acid	64 ppm[1]

[1] The level is low and should not pose significant health effect.

Pathogens

- 1 unsatisfactory sample

Sample (no.)	Unsatisfactory testing item	Result
Rice with plain chicken & BBQ pork (1)	*Staphylococcus aureus*	83000/gram [1]

[1] Pathogen may cause gastrointestinal discomfort such as vomiting.

Targeted food surveillance – nitrate and nitrite in meat and meat products

- 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.

- 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 satisfactory rate was 99%.

Targeted food surveillance – nitrate and nitrite in meat and meat products (Cont'd)

- 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.

Samples (no.)	Unsatisfactory testing item	Result
Dried pork slice (2)	*Sodium nitrate*	710 ppm[1] & 2100 ppm[1]
Pork floss (1)	*Sodium nitrate*	870 ppm[1]

[1]The level is low and should not pose significant health effect.

Follow-up actions

- Trace source of food items in question.
- Request vendors to stop sale and dispose of incriminated food items.
- Take follow-up samples.
- Issue warning letters to concerned vendors.
- Take prosecution actions if there is sufficient evidence.

Summary

- In almost all cases, the exceedances or breaches were not serious and would not pose immediate health risks.
- As for the scallop sample with high level of PSP toxin, it may cause neurological symptoms such as numbness of mouth and extremities.
- As for the food sample with *Staphylococcus aureus*, the pathogen may cause gastrointestinal discomfort, such as vomiting.
- The other unsatisfactory samples were mainly related to the use of excessive/non-permitted preservatives and veterinary drug residues or pesticide residues .

Advice for trade

- According to legislation:
  - preservatives must not be used in fresh meat.
  - the importation of game, meat and poultry into Hong Kong required prior permission from FEHD and accompany with health certificate.
  - it is an offence to sell food containing Clenbuterol.

  Offender is liable to a fine of $50,000 or imprisonment of 6 months.
- Use only permitted food additives, follow good manufacturing practice and comply with legal requirements.
- When preparing food, especially for those involving intensive preparations :
  - maintain good personal hygiene
  - wash raw materials thoroughly
  - cook food thoroughly
  - separate raw food from ready-to-eat food to prevent cross contamination
  - keep food at safe temperatures (4^{o}C or below; 60 ^{o}C or above)

Advice for consumers

- Patronize licensed restaurants and reliable suppliers of food.
- Keep food not for immediate use at safe temperatures (4^{o}C or below; 60 ^{o}C or above).
- Maintain a balanced diet to minimize risk.
- Wash vegetables and fruits thoroughly.