2007 Food Safety Report No. 1

Centre for Food Safety
Food and Environmental Hygiene Department

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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 will strengthen its targeted and seasonal food surveillance in addition to the baseline routine surveillance.

- This presentation gives an account of the food surveillance sample analyses that were completed in January and February 2007.
Types of food tested

- 7100 food samples of various food groups were tested

N.B.: Figures in brackets are rounded
Types of testing

- Chemical analysis 73% (5200)
- Microbiological test 24% (1700)
- Radioactivity 3% (200)

N.B.: Figures in brackets are rounded.
Overall results

- Overall satisfactory rate was 99.6%.
- Totally 28 unsatisfactory samples
Unsatisfactory samples

- 28 unsatisfactory food samples included 17 previously announced results (14 Chinese New Year food samples and 3 turbot fish samples)

- The remaining 11 unsatisfactory samples included:

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetables, fruits &amp; products</td>
<td>Green peas</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Spring Onion</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Dried raisin</td>
<td>1</td>
</tr>
<tr>
<td>Meat, poultry &amp; products</td>
<td>Fresh beef</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sliced gizzard with preserved vegetables</td>
<td>1</td>
</tr>
<tr>
<td>Aquatic products</td>
<td>Shrimp</td>
<td>1</td>
</tr>
<tr>
<td>Cereals, grains and products</td>
<td>Flat noodles</td>
<td>1</td>
</tr>
<tr>
<td>Others</td>
<td>Noodle snack</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Curry paste</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Pan fried pork dumplings</td>
<td>1</td>
</tr>
</tbody>
</table>
1. Vegetables, fruits & products

- About 3200 samples with overall satisfactory rate 99.6%
- 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-methylcarbamates (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

**Pesticide residues**
- Pesticide residues were detected in 12 (0.4%) samples, one of which was at unsatisfactory level.

**Metallic contamination**
- All samples tested for metallic contamination were satisfactory

**Colouring matters**
- Samples of sweet potatoes were tested for colouring matters and all the results were satisfactory.
1. Vegetables, fruits & products

Besides 9 unsatisfactory samples previously announced as results of surveillance on Chinese New Year food, the remaining 4 unsatisfactory samples included:

<table>
<thead>
<tr>
<th>Samples</th>
<th>Unsatisfactory testing item</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Spring Onion</td>
<td>Methamidophos (pesticide)</td>
<td>11 ppm&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>2 Green peas</td>
<td>Brilliant Blue FCF &amp; Tartrazine (colouring matters)</td>
<td>Detected&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>1 Dried raisin</td>
<td>Sulphur dioxide (preservative)</td>
<td>2300 ppm&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>1</sup>The level is low and should not pose significant health effect on consumers.
<sup>2</sup>Permitted colouring matters in certain food but are not for fresh vegetables.
<sup>3</sup>A commonly used preservative. The level is low and should not pose significant health effect on consumers.
2. Meat, poultry & products

- About 500 samples and overall satisfactory rate was 99.6%

- Analysis included microbiological and chemical tests (veterinary drug residues, preservatives, colouring matters and other food additives)

- 2 unsatisfactory samples were:

<table>
<thead>
<tr>
<th>Samples</th>
<th>Unsatisfactory testing item</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh beef</td>
<td>Sulphur dioxide (preservative)</td>
<td>98 ppm&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Sliced gizzard with preserved vegetables</td>
<td>Benzoic acid (preservative)</td>
<td>310 ppm&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>1</sup> A commonly used preservative. The level is low and should not pose significant health effect on consumers.

<sup>2</sup> A commonly used preservative of low toxicity that should not pose significant health effect on consumers.
2. Meat, poultry & products

Veterinary drug residues

- All results were satisfactory for testing on veterinary drug residues including
  - antibiotics (e.g., chloramphenicol)
  - beta-agonist (clenbuterol) and
  - synthetic hormones.

Pathogens

- All samples tested for the presence of pathogens (e.g., Salmonella, staphylococcus aureus, Clostridium perfringens and Bacillus cereus) were satisfactory.
3. Aquatic products

- About 400 samples and overall satisfactory rate was 99.1%.

- Analysis included microbiological and chemical tests (veterinary drug residues, colouring matters, metallic contamination and preservatives)

**Veterinary drug residues**
- Besides 3 unsatisfactory samples announced previously as results of surveillance on turbot fish, all aquatic products tested for veterinary drug residues were satisfactory.

**Metallic contamination**
- 1 sample of shrimp was found to contain excessive level of arsenic:

<table>
<thead>
<tr>
<th>Samples</th>
<th>Unsatisfactory testing item</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Shrimp</td>
<td>Arsenic (Metallic contamination)</td>
<td>20 ppm¹</td>
</tr>
</tbody>
</table>

¹ The level is low and should not pose significant health effect on consumers.
4. Milk, milk products & frozen confections

- Totally 1100 samples which included ice-cream, cheese, yogurt, milk and milk products, etc.

- Analysis included microbiological (e.g., *Salmonella* and *Listeria monocytogenes*) and chemical tests (preservatives, colouring matters, sweeteners and others).

- All results were satisfactory.
5. Cereal, grains and products

- About 500 samples including bread, crackers, rice and noodles, etc

- Overall satisfactory rate was 99.8%.

- Analysis included microbiological and chemical tests including
  - sweeteners
  - colouring matters
  - pesticides
  - preservatives and
  - others
5. Cereal, grains and products

Pesticide residues

- All samples tested for pesticide residues were satisfactory

Food additives

- 1 unsatisfactory sample:

<table>
<thead>
<tr>
<th>Samples</th>
<th>Unsatisfactory testing item</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat noodles</td>
<td>Benzoic acid (preservative)</td>
<td>340 ppm(^1)</td>
</tr>
</tbody>
</table>

\(^1\)A commonly used preservative of low toxicity but is not permitted for use in flat noodles
6. Other food commodities

- About 1400 samples and overall satisfactory rate was 99.4%.
- Testing included microbiological and chemical analysis.

**Colouring matters in condiments and sauces**
- All results (including Sudan dyes) were satisfactory.
6. Other food commodities

- Besides 5 unsatisfactory samples announced previously as results of surveillance on Chinese New Year Food, there were another 3 unsatisfactory samples:

<table>
<thead>
<tr>
<th>Samples</th>
<th>Unsatisfactory testing item</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noodle snack</td>
<td>Stevioside (artificial sweetener)</td>
<td>Detected¹</td>
</tr>
<tr>
<td>Pan fried pork dumplings</td>
<td>Salmonella (pathogens)</td>
<td>Detected²</td>
</tr>
<tr>
<td>Curry paste</td>
<td>Sorbic acid (preservative)</td>
<td>680 ppm³</td>
</tr>
</tbody>
</table>

¹ A sweetener of low toxicity and should not pose significant health effect on consumers
² Salmonella may cause gastrointestinal upset such as abdominal pain and diarrhoea.
³ A commonly used preservative of low toxicity. The level is low and should not pose significant health effect on consumers.
7. Chinese New Year Food

- About 600 samples tested with overall satisfactory rate of 97.7%.

- Samples covered various Chinese New Year foods (e.g., steamed puddings, fried dumplings, sweetened fruits & vegetables, seeds, dried vegetables & dried soybean products, preserved meat, poon choi and tea leaves).

- Analysis included microbiological (e.g., *food poisoning organisms*) and chemical tests (e.g., preservatives, colouring matters, metallic contamination and pesticides).
## 7. Chinese New Year Food

**Totally 14 unsatisfactory samples:**

<table>
<thead>
<tr>
<th>Unsatisfactory samples</th>
<th>Fail test items</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Turnip pudding</td>
<td>Benzoic acid (preservative)</td>
<td>450 ppm(^1)</td>
</tr>
<tr>
<td>4 dried daylily flowers</td>
<td>Sulphur dioxide (preservative)</td>
<td>3800 – 9500 ppm(^2)</td>
</tr>
<tr>
<td>2 bamboo fungus</td>
<td>Cadmium (heavy metal)</td>
<td>2.1 ppm(^3)</td>
</tr>
<tr>
<td></td>
<td>Sulphur dioxide (preservative)</td>
<td>3300 ppm(^2)</td>
</tr>
<tr>
<td>1 Poon Choi</td>
<td>Clostridium perfringens &amp;</td>
<td>Detected(^4)</td>
</tr>
<tr>
<td></td>
<td>Bacillus cereus (pathogens)</td>
<td></td>
</tr>
<tr>
<td>6 Chinese candies</td>
<td>Sulphur dioxide (preservative)</td>
<td>680 – 2800 ppm(^5)</td>
</tr>
</tbody>
</table>

\(^1\) A commonly used preservative of low toxicity but is not permitted to be used in turnip pudding.
\(^2\) Most sulphur dioxide in dried vegetables will be removed by thorough soaking, washing & cooking.
\(^3\) The level is low and should not pose significant health risk to consumers.
\(^4\) Pathogens may cause gastrointestinal upset such as abdominal pain and diarrhoea.
\(^5\) A commonly used preservative. The levels were low and should not pose significant health effect on consumers.
7. Chinese New Year Food

**Sudan dyes**
- No Sudan dyes was detected in food samples.

**Pesticide residues**
- All samples of tea leaves tested for pesticides residues were satisfactory.

**Major findings**
- The unsatisfactory samples were mainly related to the use of excessive or non-permitted preservatives (such as sulphur dioxide & benzoic acid).
- Except for the sample of poon choi with pathogens *Clostridium perfringens* and *Bacillus cereus*, none of the unsatisfactory samples posed significant health risk to consumers.
Follow up actions

- Tracing the source of food in question
- Asking concerned retailers to stop selling those concerned food items
- Taking follow-up samples
- Issuing warning letters
Summary

- In summary, the exceedances or breaches were not serious and would not pose immediate health risks.

- As for the food sample with *Salmonella*, the pathogen may cause gastrointestinal discomfort, such as abdominal pain and diarrhoea.

- The unsatisfactory samples were mainly related to the use of excessive or non-permitted food additives (such as preservatives, colouring matters or sweeteners).

- Regarding the unsatisfactory samples, the CFS has taken follow-up actions.
Advice for trade

- 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; and
  - Keep food at safe temperatures (4°C or below; 60°C or above).
Advice for consumers

- Patronize licensed restaurants and reliable suppliers of food.

- Keep food not for immediate use at safe temperatures (4°C or below; 60°C or above).

- Maintain a balanced diet to minimize risk.