

# 食物安全焦點

# Food Safety Focus



食物安全中心  
Centre for Food Safety

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食物安全中心  
風險管理組  
馮永輝醫生報告

Reported by Dr. Benjamin FUNG, Medical Officer,  
Risk Management Section,  
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## 背景

食物事故是指可能影響食物安全的事務或事件，並經過食物安全中心(中心)主動作出評估。這些事故包括本港境外食物規管當局發出的食物安全報告，市民關注的本地食物安全事宜，和有關的傳媒報道。中心密切留意各方消息，評估對本港的影響，並採取跟進行動處理食物安全風險和有關問題。

## Background

Food incidents refer to the incidents or events which have potential food safety implications and are actively evaluated by the Centre for Food Safety (CFS). They include reports on food safety issues by food authorities and media agencies outside Hong Kong which may have local implications, as well as local food safety issues with wide media coverage and significant public concern. The CFS monitors reports from a wide range of sources, assesses their local significance and takes follow-up actions to address any food safety risk and concern that may be identified.

## 二零零七年食物事故回顧

### 一般趨勢

由二零零七年一月至十二月，中心一共發現約820宗食物事故，每月平均為69宗。詳情請參閱圖一。

## Review of Food Incidents in 2007

### General Trend

From January to December 2007, around 820 food incidents were identified by the CFS. The average number of food incidents identified per month was 69. Please refer to Figure 1 for details.

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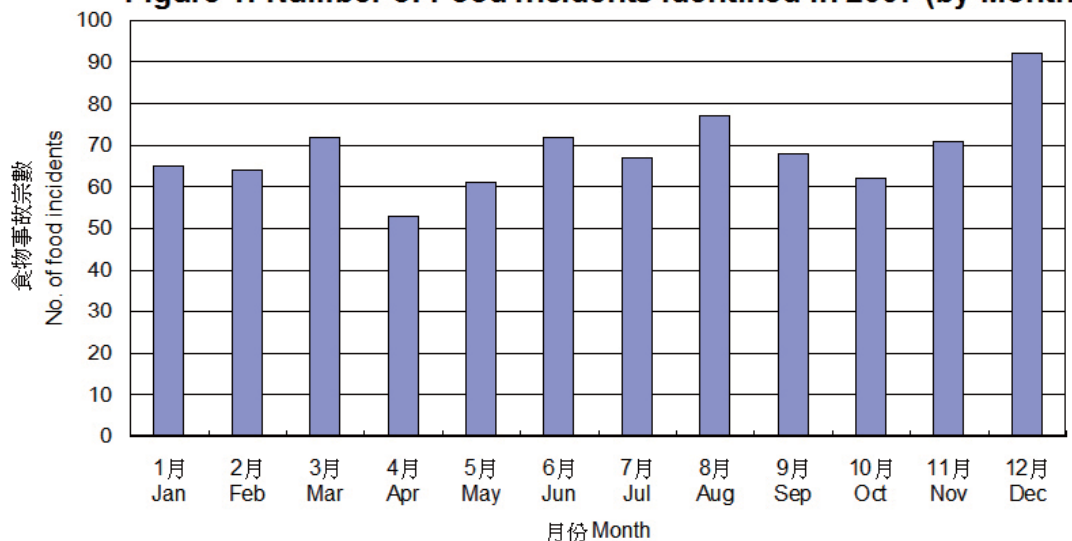
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圖一：於2007年發現的食物事故數目(按月份劃分)

Figure 1: Number of Food Incidents Identified in 2007 (by Month)



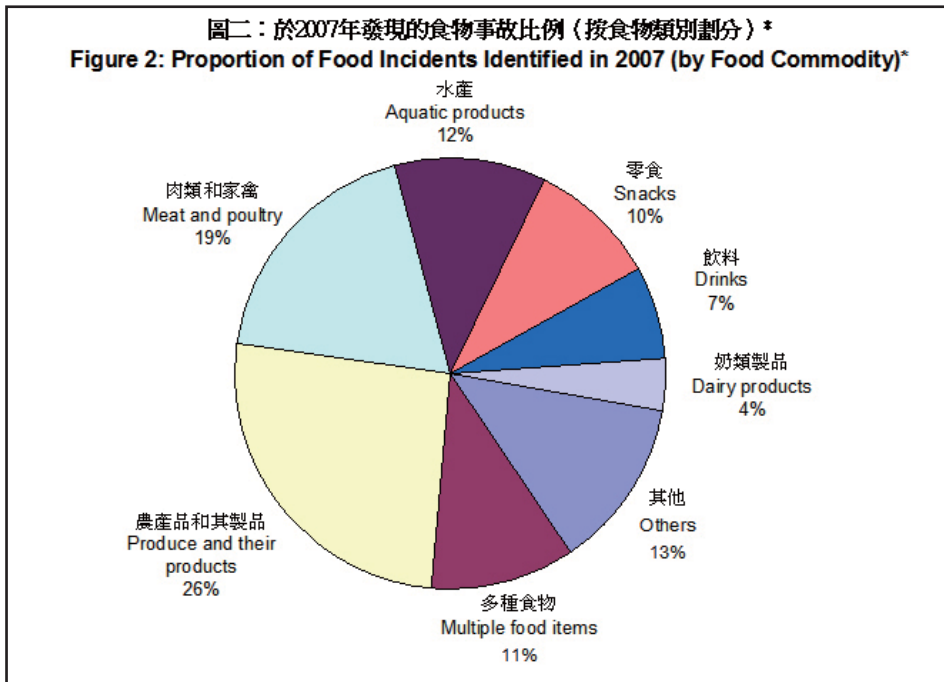
## 涉及的食物種類

以食物種類而言，食物事故最常涉及農產品和其製品(26%)，其他主要食物類別則有肉類和家禽(19%)、水產(12%)、多種食物(11%)及零食(10%)(見圖二)。

## Types of Food Involved

With regard to the types of food concerned, food incidents related to produce and their products were the commonest (26%). The other major food groups involved were meat and poultry (19%), aquatic products (12%), multiple food items (11%) and snacks (10%) (Figure 2).

焦點個案  
Incident in Focus



\* 由於分項數字採用四捨五入方法計算，故總和未必等於100%。

\* Add-ups may not be equal to 100% due to rounding.

危害的類別

我們從圖三中明顯看出，最常見的危害是化學物(53%) (例如：防腐劑、除害劑、染色料、甜味劑和重金屬等)，包括在櫻子樣本中發現微量不准在食物中使用的染色料，以及在一個扇貝樣本中驗出高水平的痲痺性貝類毒素；其次則為細菌和病毒等微生物(27%)，例如美國有報告指數批生蠔可能受副溶血性弧菌或諾沃克病毒污染。此外，涉及金屬和玻璃碎片等物理危害佔6%，而涉及多種危害和品質問題等的其他危害則約佔15%。

中心採取的行動

視乎食物事故對市民健康構成的風險，中心會採取適當的跟進行動，例如向有關當局取得更多資料；向業界發出警報；了解有關食物有否在本港出售；抽取有關產品樣本進行化驗；以及發出新聞公報和食物警報。去年，中心一共向業界發出了約130則警報，又向公眾發出了30多則新聞公報。

總結

由於本港大部分食物是進口的，業界應確保其食物來自可靠的供應商。對可能會影響本港的食物事故，中心會向業界發出警報，與他們保持溝通，並適時向市民作出公布。透過政府、食物業與消費者三方充分合作，本港的食物安全便能得以確保。

Types of Hazard

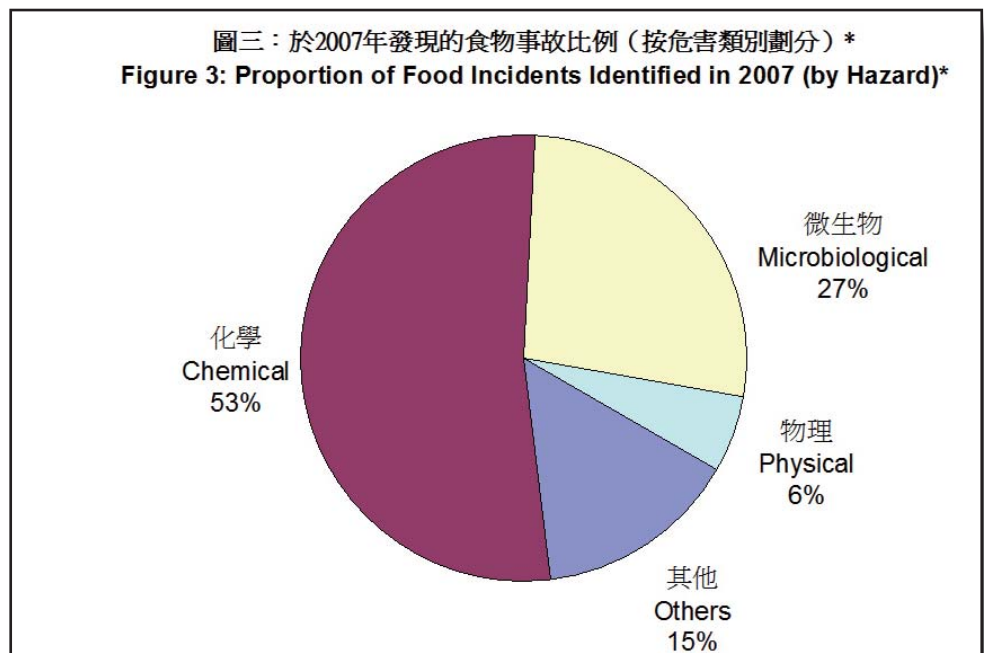
From Figure 3, it is obvious that chemicals (e.g. preservatives, pesticides, colouring matter, sweeteners, heavy metals) were the commonest hazards identified (53%). Examples of such food hazards included trace amounts of non-permitted colouring matter found in rice dumpling samples and high level of paralytic shellfish poisoning toxin in a scallop sample. Microbiological agent (e.g. bacteria, virus) was the second commonest hazard (27%). For instance, possible contamination with *Vibrio parahaemolyticus* and norovirus was reported in some batches of oysters in the USA. The proportion of physical hazards (e.g. metal pieces, glass fragments) was 6%. Other hazards such as mixed hazards and quality issues constituted about 15%.

Actions Taken

Depending on the public health risk of the food incidents, the CFS has taken appropriate follow-up actions such as obtaining further information from relevant authorities, alerting traders, conducting sales check, sampling and testing of the products concerned, and issuing press releases as well as food alerts. In 2007, about 130 alerts to traders and some 30 press releases were issued.

Conclusion

Since the majority of foods in Hong Kong are imported, traders should ensure that their foods are sourced from reliable suppliers. The CFS will alert and communicate with traders, and make timely announcement to the public in case the food incidents identified have potential local impact. Food safety in Hong Kong can be achieved through tripartite collaboration among the Government, food trade and consumers.



\* 由於分項數字採用四捨五入方法計算，故總和未必等於100%。

\* Add-ups may not be equal to 100% due to rounding.

# 食物中的殘餘除害劑 (中篇)

## Pesticide Residues in Food (Part II)



食物安全中心  
風險評估組  
科學主任林漢基博士報告

Reported by Dr. John LUM, Scientific Officer,  
Risk Assessment Section,  
Centre for Food Safety

我們在上一期概述了除害劑及食物中的殘餘除害劑，今期將會集中探討食物中殘餘除害劑的安全問題。

### 食物中的殘餘除害劑是否安全？

食物中的殘餘除害劑是否安全取決於數項因素，包括該除害劑的性質和人們攝入量和攝入期長短而定。食物如含有過量殘餘除害劑，可能會對人們健康造成急性及／或慢性的不良影響。

一般而言，急性影響會在人們攝入較高水平的除害劑後數小時或一天的短時間內出現。至於慢性影響，則會經過以月或年計的較長時間才會產生，而且多與長期或經常攝入低水平的殘餘除害劑有關。

視乎除害劑的性質和使用模式，它們引起關注的不良影響亦有所不同。以市民可能最熟悉的兩種除害劑甲胺磷和滴滴涕為例，前者的主要關注是其急性影響，而後者則為其慢性影響。由於甲胺磷和滴滴涕可能會損害人們的健康，多國在農務上已禁用這兩種除害劑。

除害劑	影響類別	可能出現的症狀／影響
甲胺磷	急性影響	在人類可出現嘔吐、腹瀉、眩暈和身體痲痺，而嚴重個案則會有呼吸困難和視力模糊。
滴滴涕	慢性影響	可損害實驗動物的肝臟，並影響其生殖和發育情況。

### 安全參考值 — 每日可攝入量和急性參考劑量

每日可攝入量和急性參考劑量都是安全參考值，經常用來分別評估慢性和急性影響的風險。有關每日可攝入量的概念，我們已作介紹。至於急性參考劑量，則指消費者在一段短時間內(通常為一餐或一天)，攝入某物質而不致對健康帶來可見風險的分量。考慮到各人體重有別這項因素，每日可攝入量和急性參考劑量均以人體體重來表示。

這些安全參考值會有較大的安全容差，以顧及各種可能存在的變數。安全容差較大可確保安全參考值能應用於不同人身上，包括較易受除害劑影響的人，例如兒童。

### 攝入量多少才算安全？

以除害劑硫丹為例，目前已制定按每公斤人體體重計算的每日可攝入量0-0.006毫克和急性參考劑量0.02毫克。如每公斤番茄含有0.5毫克硫丹(即食品法典委員會建議的最高准許上限)，假設番茄是人們攝取到硫丹的唯一食物來源，一個60公斤重的人在一生中每日可吃下720克番茄(1斤約為605克)而不會對健康帶來可見風險(即沒有超逾每日可攝入量)，又或在一餐中或一日裏可吃下2.4公斤番茄而不會對健康帶來可見風險(即沒有超逾急性參考劑量)。由於我們每日吃下的大部分番茄所含的殘餘除害劑遠低於最高准許上限，甚或完全沒有殘餘除害劑，實際可進食的番茄分量遠高於上述數值。此外，清洗和烹煮等處理食物步驟亦可減低食物中的殘餘除害劑含量。不過，有一點要注意的是，其他食物亦可能會含有硫丹殘餘。

由於每日可攝入量是以一生攝入量來訂定，偶爾從食物中攝入高於每日可攝入量的分量並不表示健康必然會受損。此外，由於上述安全參考值會有較大的安全容差，偶爾攝入高於這些參考值的殘餘除害劑在一般情況下不會對健康構成即時風險。

總括而言，每日可攝入量和急性參考劑量是有用的數

In the last issue, we had an overview on pesticides and their residues in food. In the current issue, we shall focus on the safety of pesticide residues in food.

### Are Pesticide Residues in Our Food Safe?

The safety of pesticide residues in food depends on several factors, including the nature of the pesticide as well as the amount and duration of the exposure. Food containing excessive amount of pesticide residues may lead to acute and/or chronic adverse health effects.

Acute effects generally occur shortly (within hours or a day) after the exposure to a relatively high level of pesticides, while chronic effects develop over a relatively longer period of time (in terms of months or years) and is usually related to long-term or repeated exposure to pesticide residues at a low level.

Depending on the nature and use patterns of the pesticide, various adverse effects are of concern. Using methamidophos and DDT (the two probably best-known pesticides in Hong Kong) as examples, the main concern of methamidophos is on its acute effects, while DDT is on its chronic effects. Due to their potential adverse effects, these pesticides have been removed from agricultural use in many countries.

Pesticides	Type of adverse effects	Possible symptoms/effects
Methamidophos	Acute adverse effects	Vomiting, diarrhoea, dizziness and numbness have been observed in humans, whereas breathing difficulties and blurred vision were noted in severe cases.
DDT	Chronic adverse effects	Liver damage, adverse effects on reproduction and development have been observed in laboratory animals.

### Safety Reference Values - ADI and ARfD

Both Acceptable Daily Intake (ADI) and Acute Reference Dose (ARfD) are safety reference values commonly used to assess the risk of chronic and acute adverse effects respectively. The concept of ADI has been introduced previously. On the other hand, ARfD is the amount that can be ingested over a short period of time, usually during one meal or one day, without appreciable health risk to the consumer. Both ADI and ARfD are expressed on a body-weight (bw) basis to account for the body-weight of different individuals.

A large safety margin is incorporated in the safety reference values to account for any possible uncertainties. This large safety margin ensures that safety reference values can be applied to different individuals, including those more sensitive to the adverse effects of pesticides (e.g. children).

### How Much is Safe?

Using the pesticide endosulfan as an example, an ADI of 0.006 mg/kg bw/day and ARfD of 0.02 mg/kg bw have been established. For tomato containing endosulfan at 0.5 mg/kg (i.e. the maximum permitted level recommended by the Codex Alimentarius Commission) and assuming that tomato is the sole dietary source of endosulfan, a 60 kg person could consume 720 g (one catty approximately equals to 605 g) of the tomato everyday over the entire lifetime without appreciable health risk (i.e. not exceeding the ADI). Similarly, the person could consume 2.4 kg of the tomato in one meal or a day without appreciable health risk (i.e. not exceeding the ARfD). Since most of the tomatoes we consume everyday contain pesticide residues at levels much lower than the maximum permitted level or even none at all, the actual consumption limit for tomato alone is much higher than that illustrated above. Moreover, food preparation steps such as washing and cooking help reduce the amount of pesticide residues in food. It is important to note, however, that endosulfan residue may also come from other foodstuff.

食物安全平台  
Food Safety Platform

值，可評估某化學物的攝入水平有多大機會對人類的健康造成損害。從風險管理而言，我們需要制定有關食物中的殘餘除害劑標準，以確保除害劑正確使用於食物中和消費者的健康得到充分保障。我們將會在下一期集中討論如何制定食物中的殘餘除害劑准許含量。



菜心（左）和白菜（右）在八十及九十年代曾涉及與除害劑有關的食物中毒個案。  
Flowering white cabbage (Choi Sum) (left) and Chinese cabbage (Pak Choi) (right) were implicated in pesticide-related food poisoning cases in the 80s-90s.

Occasional dietary intake above the ADI does not automatically mean that health is at risk, as ADI is developed based on one's lifetime exposure. Moreover, as a large safety margin is incorporated in the safety reference values, occasional exposure to pesticide residues above the safety reference values will not cause immediate health risk under normal situations.

In conclusion, ADI and ARfD are useful values to assess how likely an intake level of a chemical will cause adverse health effects in **humans**. For risk management purpose, we need to set relevant standards on pesticide residues in **food** to ensure that pesticides are used properly and consumer health is sufficiently protected. In the next issue, we will focus on how to establish permitted levels of pesticide residues in food.

食物事故點滴  
Food Incident Highlight

今年二月中，英國食物標準局就回收在多間連鎖超級市場有售的不同牌子多款三文魚製品一事發出食物警報，隨後多次更新資料。這些三文魚製品，包括新鮮的三文魚柳和三文魚扒、煙三文魚和三文魚餡餅，懷疑受柴油等石油產品污染以致味道欠佳。根據英國當局提供的資料，回收行動涉及的化學物含量偏低，對人們健康造成影響的風險極低。



三文魚  
Salmon

由於部分問題產品已進口至香港，食物安全中心遂發出公告。本港有關零售商已停售這些產品。食物業人士應在整個食物製造過程中採取一切所需的預防措施，以確保產品的安全。

Petroleum Products in Salmon

In mid-February 2008, the Food Standards Agency in the United Kingdom (UK) issued a food alert with subsequent updates concerning the recall of a number of salmon products (ranging from fresh salmon fillets and steaks to smoked salmon and fish pies) sold under different brands and available in various supermarket chains. These salmon products were suspected of being contaminated with petroleum products (e.g. diesel), resulting in an unpleasant taste. According to the information provided by the UK authorities, the chemicals implicated in the recall were present at low levels which were very unlikely to be a risk to health.

As some of the affected products had been imported to Hong Kong, the Centre for Food Safety made a **public announcement**. The local retailers concerned have stopped selling the products. Members of the food trade should take all precautionary measures necessary in each stage of food production to ensure product safety.

Disposable Food Containers and Their Safety



用完即棄的塑膠食物容器例子  
Examples of disposable plastic food containers

Concerns over safety of disposable food containers have re-emerged from time to time.

Disposable containers are commonly used in local food establishments. They are often made with polypropylene (PP), expanded polystyrene (EPS, commonly known as poly-foam), polystyrene (PS) or polyethylene terephthalate (PET). Among them, PP can withstand temperature ranging from 100°C to 120°C for long periods, whereas the other three types of plastics are not suitable for keeping food at temperature over 100°C.

The Food and Environmental Hygiene Department conducted a **joint study with the Consumer Council** on the safety of disposable containers in 2005. The results showed that plastic disposable food containers provided by local food establishments, retailers and school lunch box suppliers, if properly used, would unlikely cause food safety problems. The study recommended that the food trade should identify the specific requirements, e.g., temperature and acidity of the food concerned, and purchase containers that meet such requirements.

In order to help the food trade to choose the appropriate disposable containers, detailed **guidelines** on the use of disposable plastic containers are available at the CFS website.

用完即棄的食物容器及其安全性

用完即棄食物容器的安全性不時會引起市民的關注。

本港食肆經常使用用完即棄的容器。這些容器多以聚丙烯、發泡聚苯乙烯(俗稱發泡膠)、聚苯乙烯(俗稱硬膠)或聚對苯二甲酸乙二醇酯製成。在這四種塑膠材料中，聚丙烯能長時間抵受攝氏100度至120度的高溫，而其餘三者則不宜用來盛載攝氏100度以上的食物。

食物環境衛生署在二零零五年與消費者委員會就用完即棄容器的安全性進行合作研究，結果顯示如正確使用本港食肆、零售商和學校飯盒供應商提供的用完即棄塑膠食物容器，不會造成食物安全問題。該研究建議，食物業人士應留意特定要求，例如有關食物的溫度和酸度，並購買符合要求的容器。

為協助食物業人士選擇適當的用完即棄容器，食物安全中心已在網頁內提供有關用完即棄塑膠容器的詳細使用指引。

風險傳達  
工作一覽  
Summary of  
Risk Communication Work

風險傳達工作一覽 (二零零八年二月) Summary of Risk Communication Work (February 2008)	數目 Number
事故/食物安全個案 Incidents / Food Safety Cases	59
公眾查詢 Public Enquiries	101
業界查詢 Trade Enquiries	349
食物投訴 Food Complaints	297
教育研討會/演講/講座/輔導 Educational Seminars / Lectures / Talks / Counselling	66
上載到食物安全中心網頁的新訊息 New Messages Put on the CFS Website	6