

食物安全焦點

Food Safety Focus



食物安全中心
Centre for Food Safety

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本期內容 IN THIS ISSUE

焦點個案

二零零九年食物事故回顧

食物安全平台

代糖 — 甜味劑

食物事故點滴

奶製品中的三聚氰胺

燕麥條中的沙門氏菌

風險傳達工作一覽

Incident in Focus

Review of Food Incidents in 2009

Food Safety Platform

Sugar Substitutes - Sweeteners

Food Incident Highlight

Melamine in Milk Products

Salmonella in Granola Bars

Summary of Risk Communication Work

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焦點個案 Incident in Focus

二零零九年食物事故回顧

Review of Food Incidents in 2009

食物安全中心

風險管理組

舒寶兒醫生報告

Reported by Dr. Bo-ye SHU, Medical Officer,

Risk Management Section,

Centre for Food Safety

由於香港大部分的食物都是從境外進口，能有效地監察世界各地的食物事故，對確保本港食物安全至為重要。食物安全中心(中心)每天都會監察傳媒和互聯網，以取得有關食物事故的報道／報告，作出評估，並採取風險管理行動。

二零零九年食物事故

一般趨勢

由二零零九年一月至十二月，中心一共監察到大約750宗食物事故，數字與二零零七年大約800宗和二零零八年大約700宗相若。

食物事故源頭地

在二零零九年監察到的食物事故中，約有99%屬於非本地個案，其中以台灣、美國及歐洲國家居多(66%)，其他地區包括內地、加拿大及澳洲／新西蘭。本港食物事故只佔約1%。

涉及的食物種類

在所有食物事故中，最常涉及的食物種類是蔬菜、豆類、穀類、水果和其製品，佔29%；其次是肉類和家禽(23%)。其他常見的類別包括水產(8%)、飲料(8%)、奶製品(5%)及零食(6%)(見圖一)。與過去兩年的數字比較並無重大變化。

Since most of the foods available in Hong Kong are imported, effective surveillance for food incidents around the world is important to safeguard our food safety. The Centre for Food Safety (CFS) conducts daily surveillance of the media and internet for reports related to food incidents, makes assessment and carries out risk management actions.

Food Incidents in 2009

General Trend

From January to December 2009, around 750 food incidents were identified by the CFS. The figure was comparable to those of 2007 and 2008; around 800 and 700 cases respectively.

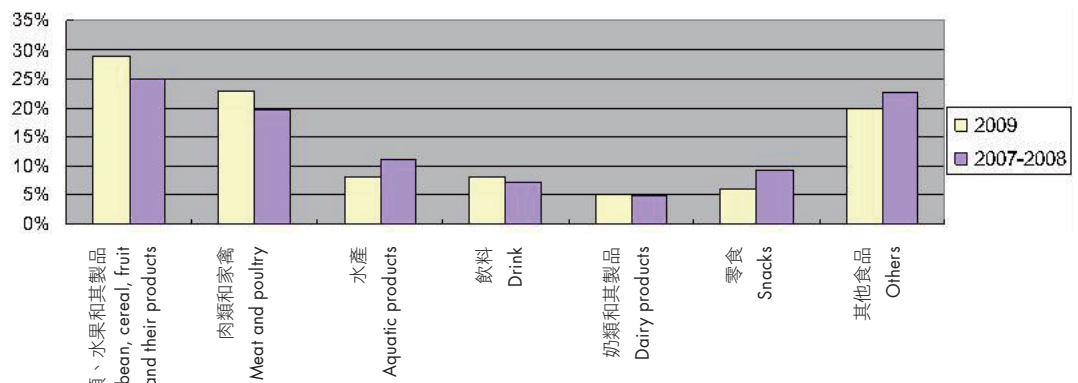
Origin of Food Incidents

In 2009, around 99% of food incidents identified were non-local cases. Taiwan, USA and European countries accounted for most of them (66%). Other areas included the Mainland, Canada and Australia/New Zealand. Local food incidents constituted only about 1%.

Food Groups Involved

Among all the food incidents, the most common food groups involved were vegetable, bean, cereal, fruit and their products which accounted for 29%. The second major food group involved was meat and poultry (23%). Other common food groups included aquatic products (8%), drink (8%), dairy products (5%) and snacks (6%) (Figure 1). No major change was observed comparing to figures in the past two years.

圖一. 2007-2009 年按食物類別劃分的食物事故比例
Figure 1. Proportion of Food Incidents by Food Commodity in 2007-2009



註1 “蔬菜類、豆類、穀類、水果和其製品”涉及的危害主要包括除害劑、微生物及防腐劑。
Note 1. For “Vegetable, bean, cereal, fruit and their products”, hazards involved are mainly pesticides, microbes and preservatives.

註2 “肉類和家禽”涉及的危害主要包括微生物及獸藥殘餘。
Note 2. For “Meat and poultry”, hazards involved are mainly microbes and veterinary drugs.

焦點個案
Incident in Focus

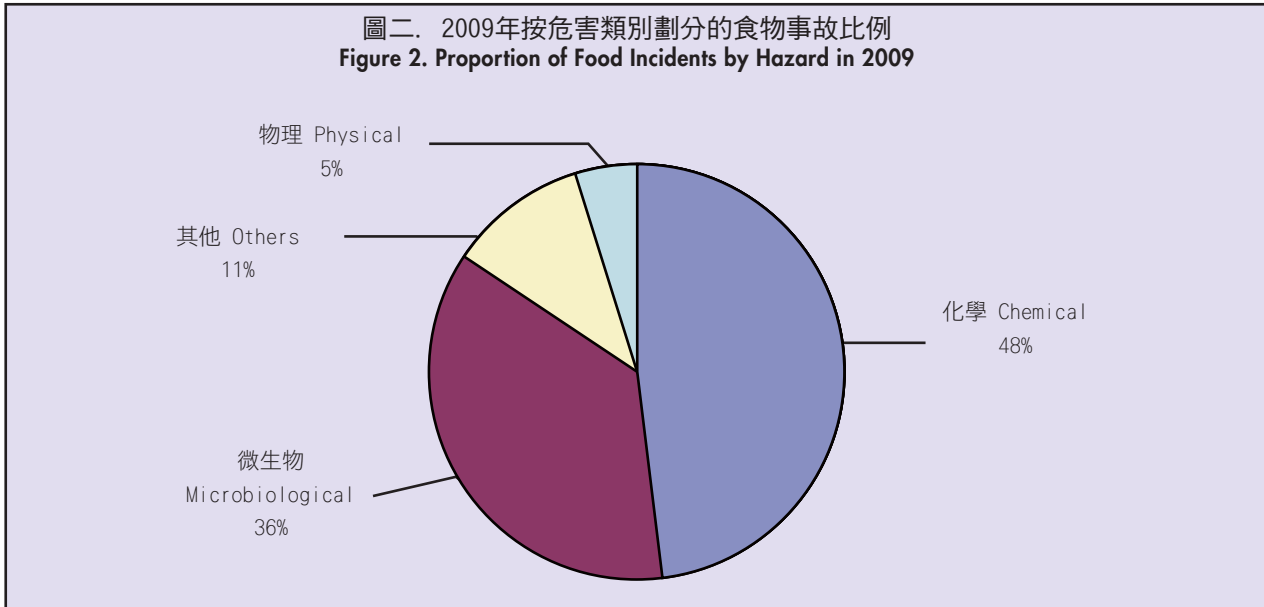
涉及的危害種類

從圖二明顯可見，在三類食物危害中，最常見的是化學物(48%)(例如防腐劑、除害劑、染色料、甜味劑、重金屬)，其次是微生物危害(36%)(例如沙門氏菌、李斯特菌和產氣莢膜梭狀芽孢桿菌)。至於物理危害(例如金屬和玻璃碎片)，則佔5%。過去三年的情況並無明顯變化。

Hazards Identified

From Figure 2, it is obvious that among the three categories of food hazards, chemicals (e.g. preservatives, pesticides, colouring matters, sweeteners, heavy metals) were the commonest hazards identified (48%) followed by microbiological hazards (36%) (e.g. *Salmonella*, *Listeria*, *Clostridium perfringens*). The proportion of physical hazards (e.g. metal pieces, glass fragments) was 5%. No obvious change was noted within the past three years.

圖二. 2009年按危害類別劃分的食物事故比例
Figure 2. Proportion of Food Incidents by Hazard in 2009



中心採取的行動

在發現食物事故後，中心會考慮多項因素，包括對目標消費者造成的風險、相關的本港規例和向有關衛生當局、進口商及分銷商了解問題食物在本港有否出售，以決定最適當的風險管理行動。

如有需要，中心會要求業界停售該食品、對相關食品進行測試、發警告信及回收產品等。中心也會向業界發出快速警報和提供最新情況。此外，如有關產品在本港市面上有售，中心亦會發出新聞公報，建議市民停止食用。

二零零九年，中心發出了大約330則業界警報和超過30則新聞公報。

二零零九年重大食物事故摘要

二零零九年，中心監察到的兩宗大型食物事故：

a) 二零零九年一月至七月，美國疾病控制及預防中心報告，多個州份爆發由沙門氏菌引致的人類感染個案，來源是美國某加工廠生產的花生產品。該公司自願回收了大約4 000種產品。

b) 二零零九年三月底至七月，美國食物及藥物管理局公布，超過600種開心果產品因懷疑受沙門氏菌污染需要回收。

在上述事故發生後，中心一直與美國當局保持緊密聯絡，並向業界提供最新情況。由於部分產品曾出口往本港，中心已立即通知業界停售該問題產品，並發出新聞公報，提醒市民停止食用。

結語

食物事故監察系統在偵察世界各地食物事故方面十分有效，令中心可就食物事故採取果斷行動，處理有關風險。通過處理各種大型食物事故(例如二零零九年美國爆發花生和開心果產品受沙門氏菌污染)，中心不但增加了處理食物事故的經驗，還提升了處理大型食物事故的應變能力。憑藉過去累積的經驗，加上本港食物安全規例不斷完善，中心將會更有能力應付未來新挑戰，確保本港的食物安全。

Actions taken by CFS

Upon identifying food incidents, CFS will consider several factors such as risk to the target consumers, local regulations and, communication with related health authorities, importers and distributors for availability of the concerned food product to decide on the most appropriate risk management actions.

If necessary, CFS will take actions such as request the trade to stop sale, conduct testings, issue warning letters, recall products etc. CFS will issue rapid alert to traders and inform them about the most updated situation, and also issue press release to advise the public to stop consuming the affected products if they are locally available.

In 2009, CFS issued about 330 trade alerts and more than 30 press releases.

Highlights of Important Food Incidents in 2009

In 2009, two large scale food incidents were detected:

a) From January to July 2009, the Centres for Disease Control and Prevention of the United States (US) reported a multistate outbreak of human infections due to *Salmonella*. The source of the outbreak was peanut products produced by a processing plant in the US. Around 4,000 products were voluntarily recalled.

b) From late March to July 2009, US Food and Drug Administration announced recalls of over 600 pistachio products because of suspected contamination of *Salmonella*.

After emergence of these incidents, CFS had been in close contact with the US authorities and also kept updating the trade about the situation. Since some of the products had been exported to HK, CFS immediately advised the trade to stop selling the affected products. Press releases were also issued to advise the public to stop consuming the products.

Conclusions

The Food Incidents Surveillance System has been shown to be very effective in detecting food incidents around the world. It enables CFS to take prompt actions on food incidents to manage the risks concerned. Responding to large scale food incidents such as peanut and pistachio products contaminated with *Salmonella* in the US in 2009 has enriched our experience and improved our readiness to manage large scale food incidents. With the gain in experiences, together with continuous enhancement of our food safety regulations, CFS will be better equipped to meet with new challenges in the coming years to safeguard food safety in Hong Kong.



代糖 — 甜味劑

Sugar Substitutes - Sweeteners

食物安全中心
風險評估組
科學主任馬嘉明女士報告

Reported by Ms. Janny MA, Scientific Officer,
Risk Assessment Section,
Centre for Food Safety

糖是一種叫人又愛又恨的配料；愛它，因為糖能為食物提供甜味；恨它，因為吃太多糖可能會攝入過多能量，因而增加超重和患肥胖症的風險。為了減少吃糖但仍可享用甜食，有些人會選擇“不含糖”或“無糖”食品。當仔細看看這些產品的成分表，大家可能會發現產品使用了甜味劑來代替糖。由今日起，我們將會推出以甜味劑為主題的全新系列文章，細味這些甜絲絲的代糖。

甜味劑是什麼？

甜味劑是糖以外另一種可為食物添加甜味的食物添加劑。許多人可能以為甜味劑全都是人工化學物，但其實有些甜味劑是天然的植物提取物。根據本港法例，甜味劑指任何帶甜味的化合物，但不包括糖或其他碳水化合物或多羥醇(即糖醇)。

大家可能會問，為什麼一包小小的商業用餐桌甜味劑(約1克)就能提供相等約兩茶匙糖(一茶匙糖約重5克)所產生的甜味？這是因為甜味劑一般具有強烈的甜度，通常比砂糖甜數十至數千倍(表一)，因此使用極小分量便可為食物帶來甜味。大家或許不知道，商業用餐桌甜味劑很少單純只有甜味劑，還可能含有乳糖及葡萄糖等其他配料作為填充劑，而甜味劑本身按重量計算可能只佔少於10%。再者，這些填充劑可能會為產品提供少許能量和甜味。

混合使用甜味劑會令甜度加倍提高，這種特性可令甜味劑發揮更大威力；舉例來說，如按2:1的比例混合使用天冬酰胺和醋磺內酯鉀，可產生的甜度便不再是砂糖的180多倍，而是大約350倍！因此，業界通常會在一種食品中使用超過一種甜味劑。

此外，甜味劑不會提供大量能量和影響胰島素或血糖水平，因此可有助控制體重和為糖尿病患者提供甜食。

甜味劑的應用

甜味劑在汽水、乾果、甜點和口香膠等多種食物中代替糖使用。許多市面上出售的“不含糖”或“無糖”甜味食物可能含有甜味劑。大家可查看成分表，便能得知預先包裝食物是否含有甜味劑。如產品使用了任何甜味劑，必須標示其作用類別(即甜味劑)及確實名稱或識別編號。



1克天冬酰胺的甜度相等於180克砂糖
1 g of aspartame is as sweet as 180g of table sugar

甜味劑的安全問題

一如其他食物添加劑，聯合國糧食及農業組織/世界衛生組織聯合食物添加劑專家委員會這個國際機構會對甜味劑作出全面的安全評估，然後才獲准使用。此外，食物安全中心已進行風險評估研究，確保正常進食含有甜味劑的食物不會損害一般人的健康。

Sugar is an ingredient that we love and hate. We love it as it provides sweetness to our food. We hate it as getting too much sugar may lead to excessive energy intake, increasing the risk of overweight and obesity. In order to eat less sugar but still enjoy sweet tasting food, some are going for the “sugar free” or “no sugar” options. Taking a closer look at the ingredient list of these products, you may find that sweeteners instead of sugar are being used. From this issue, we will move to a new series and savour these sweet tasting sugar substitutes – sweeteners.

What are Sweeteners?

Sweeteners are food additives, other than sugars, which impart a sweet taste to a food. Many of us may consider that all sweeteners are artificial chemicals; however, some are in fact naturally occurring plant extracts. Under local law, sweetener means any chemical compound which is sweet to the taste, but does not include any sugars or other carbohydrates or polyhydric alcohols i.e. sugar alcohols.

You may wonder why a tiny sachet of commercial table-top sweetener (about one gram) can provide sweetness equivalent to about two teaspoons of sugar (one teaspoon of sugar weighs about five grams). It is because, in general, sweeteners have intense sweetness, usually tens to thousands times sweeter than table sugar (Table 1). They can thus be used at a much lower concentration to provide sweetness in foods. You may even not know that commercial table-top sweeteners seldom contain pure sweeteners and may contain other ingredients e.g. lactose and dextrose as fillers. Sweetener itself may only contribute to less than 10 percent by weight. Moreover, these fillers may provide traces of energy and sweet taste to the product.

What makes sweeteners even more powerful is the extra sweetness enhancement property when certain sweeteners are mixed together. For instance, by mixing aspartame and acesulfame potassium at 2:1 ratio, the resulting sweetness is no longer some 180 but about 350 times greater than table sugar! It is therefore common to use more than one type of sweeteners in a food product.

In addition, sweeteners do not contain much energy nor affect insulin or glucose levels. They may assist in weight management and provide sweet tasting foods for people with diabetes.

表一. 不同甜味劑的相對甜度
Table 1. Relative sweetness of some sweeteners

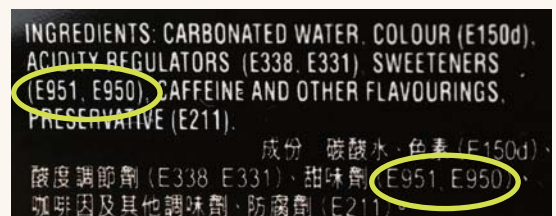
| 甜味劑名稱 (食物添加劑國際編碼系統編號) Name of sweetener (INS* No.) | 大約甜度 (砂糖的相對甜度= 1) Approximate sweetness (Relative to table sugar = 1) |
|---|---|
| 醋磺內酯鉀 Acesulfame potassium (950) | 200 |
| 縮二氨基基酰胺 Alitame (956) | 2000 |
| 天冬酰胺 Aspartame (951) | 180 |
| 環己基氨基磺酸 Cyclamate (952) | 30 |
| 糖精 Saccharin (954) | 300 |
| 三氫半乳糖蔗糖 Sucralose (955) | 600 |
| 索馬甜 Thaumatin (957) | 2000-3000 |

* International Numbering System for Food Additives

Applications of Sweeteners

Sweeteners have been used to replace sugars in a wide range of products such as soft drinks, preserved fruits, confectioneries and chewing gums. Many sweet tasting products marketed as “sugar free” or “no sugar” may contain sweeteners.

You can always check if sweeteners are present in a prepackaged food by looking at the ingredient list. The functional class i.e. sweetener together with its specific name or identification number have to be labelled if any of the sweeteners are used in the product.



一款含有天冬酰胺(951)和醋磺內酯鉀(950)的飲品的成分表
The ingredient list of a beverage containing aspartame (951) and acesulfame potassium (950)

However, sweeteners cannot always simply replace sugar in food production as sugar may also perform other functions e.g. contribute to the texture of the products. Some sweeteners may also not be suitable for use under high temperatures e.g. for baking.

Safety of Sweeteners

Like other food additives, sweeteners have been thoroughly assessed for safety by international authority i.e. the Joint FAO/WHO Expert Committee on

有些早期研究顯示，環己基氨基磺酸和糖精會令實驗動物患膀胱癌，故甜味劑的致癌問題一度惹人關注。不過，其後有研究指，並無具體證據證明甜味劑與人們患癌有關。

不過，有極少數的人可能會因進食天冬酰胺這種經准許甜味劑而影響健康。患有苯丙酮酸尿症這種遺傳疾病的人由於身體不能有效分解苯丙氨酸這種氨基酸，以致積聚至可能影響健康的水平，令腦部嚴重受損，故他們不應進食天冬酰胺。我們建議對個別甜味劑敏感的人士應查看成分表，以識別和迴避這些甜味劑。

我們將會在未來兩期介紹兩種較新的甜味劑——紐甜及甜菊醇糖苷。

Food Additives (JECFA) before approved for use. The CFS has also conducted risk assessment studies to ensure the normal consumption of foods containing sweeteners would not pose any adverse health effects to the general population.

The cancer-causing concern of sweeteners has once arisen when early studies revealed that cyclamate and saccharin caused bladder cancer in experimental animals. However, subsequent studies indicated that there is no clear evidence demonstrating the association between sweeteners and cancer in humans.

Nevertheless, it is noted that a very small proportion of the population may experience adverse effects due to the consumption of specific permitted sweetener i.e. aspartame. Patients suffered from an inherited disease phenylketonuria (PKU) are advised not to consume aspartame because they are unable to metabolise the amino acid phenylalanine effectively, leading to the accumulation of potentially harmful levels and can cause serious brain damage. People who are sensitive to particular sweeteners are advised to check the ingredient list to identify their presence and avoid them.

In the coming issues, we are going to talk about two relatively new sweeteners, neotame and steviol glycosides.

食物事故點滴 Food Incident Highlight

奶製品中的三聚氰胺

傳媒在上月報道，由於有部分在二零零八年驗出受三聚氰胺污染的奶製品未有銷毀而流入內地市面，內地當局已加強監察奶製品。

三聚氰胺是工業用化學物，食物內不得添加任何分量的三聚氰胺。二零零八年，奶製品被發現攙入三聚氰胺，目的是令這些產品在蛋白質測試中出現蛋白質含量增加的假象。

三聚氰胺可引致尿道出現結石。嬰兒特別容易因進食受三聚氰胺污染的奶類受到影響。受三聚氰胺影響的兒童可能會出現無故哭鬧，血尿，少尿或無尿，尿中排出結石或腎臟範圍疼痛。

自二零零八年發生三聚氰胺事件後，食物安全中心(中心)一直監察本港市面上的食物是否含有三聚氰胺。二零零九年，經中心測試的1100多件食品均沒有驗出三聚氰胺；二零一零年直至目前為止，經測試的全部食品亦沒有驗出三聚氰胺。中心將會與內地當局保持密切聯絡，以監察市面上是否有任何受三聚氰胺污染的產品。

Melamine in Milk Products

Last month, media reported that Mainland authorities had stepped up surveillance of milk products because some melamine contaminated milk products found in 2008 were not destroyed and entered the market in the Mainland.

Melamine is an industrial chemical not allowed to be added to food in any quantity. Its adulterated use in milk products, which was to cause a false increase in the measurement of protein, was discovered in 2008.

Melamine can cause stones formation in urinary tract. Infants are particularly at risk of developing adverse effects from consumption of melamine-tainted milk. Affected children may experience symptoms of irritability for unknown reasons, blood in urine, little or no urine, stones in urine, or pain over the kidney region.

Since the melamine incident in 2008, the Centre for Food Safety (CFS) has been conducting surveillance on melamine in foods available in Hong Kong. There had/ have been no positive results in over 1100 food products tested in 2009 and in all food products tested in 2010 so far. The CFS would maintain close contact with the Mainland authorities to monitor any contaminated products in the market.

燕麥條中的沙門氏菌

今年二月十九日，美國食物及藥物管理局就Lovin Oven 公司生產的三款Health Valley 牌有機燕麥條刊登公司回收行動公告，因為有關產品可能受沙門氏菌污染。

沙門氏菌是可引致食物中毒的致病菌，病徵包括噁心、發燒、腹痛和腹瀉，有時會出現嘔吐。這些病徵在嬰兒、長者及免疫系統較弱的人身上會更嚴重。

食物安全中心(中心)在得悉有部分上述食品在本港超級市場出售後，已發出食物警報，提醒消費者和業界停吃或停售問題產品。任何人如進食有關產品後出現病徵，應主動求診。中心會就此事繼續與美國當局聯絡，並跟進有關銷毀回收產品一事。



Health Valley牌有機蘋果燕麥條是其中一款問題產品。
Health Valley brand "Organic Dutch Apple Chewy Granola Bars", one of the affected products.

Salmonella in Granola Bars

On 19 February 2010, the United States Food and Drug Administration posted a firm recall release on three Health Valley organic granola bars manufactured by Lovin Oven because these products may be contaminated with Salmonella.

Salmonella is a pathogen that may cause food poisoning. The symptoms, which include nausea, fever, abdominal pain, diarrhoea and sometimes vomiting, are more severe in infants, the elderly and patients with weak immune system.

The Centre for Food Safety (CFS) issued a food alert warning consumers and the trade not to consume or sell the affected products after learning that some of these products were being sold in local supermarkets. Individuals should seek medical advice if they have consumed the products and developed symptoms. The CFS would follow up the incident with the US authorities and the disposal of the recalled products.

風險傳達 工作一覽 Summary of Risk Communication Work

| 風險傳達工作一覽 (二零一零年二月) Summary of Risk Communication Work (February 2010) | 數目 Number |
|--|--------------|
| 事故/食物安全個案 Incidents / Food Safety Cases | 61 |
| 公眾查詢 Public Enquiries | 45 |
| 業界查詢 Trade Enquiries | 271 |
| 食物投訴 Food Complaints | 225 |
| 給業界的快速警報 Rapid Alerts to Trade | 19 |
| 教育研討會/演講/講座/輔導 Educational Seminars / Lectures / Talks / Counselling | 53 |
| 上載到食物安全中心網頁的新訊息 New Messages Put on the CFS Website | 17 |