食物安全焦點
Food Safety Focus

食物安全中心 Centre for Food Safety

食物環境衞生署 Food and Environmental Hygiene Department

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本期內容 IN THIS ISSUE

焦點個案
- 採用電子衞生證明書並推出優化資訊科技系統「食物貿易商入門網站」以加強食物安全管制

食物安全平台
- 食用油脂中的芥酸

食物事故點滴
- 再有加州蘿蔓生菜因受大腸桿菌污染予以回收
- 日本拉麵——高鈉陷阱？

風險傳達工作一覽

Incident in Focus
- Strengthening Food Safety Control by Electronic Health Certification and Enhanced IT System-Food Trader Portal

Food Safety Platform
- Erucic Acid in Edible Fats and Oils

Food Incident Highlight
- Romaine Lettuce from California Has Been Recalled Again for *E. coli* Contamination
- Japanese Ramen – A High Sodium Trap?

Summary of Risk Communication Work

編輯委員會 EDITORIAL BOARD

焦點個案
Incident in Focus

採用電子衞生證明書並推出優化資訊科技系統「食物貿易商入門網站」以加強食物安全管制

Strengthening Food Safety Control by Electronic Health Certification and Enhanced IT System-Food Trader Portal

食物安全中心經理（特別職務）謝勵志先生及總監（機構及系統管理）吳義德先生報告

Reported by Mr. Lai Chi TSE, Manager(Special Duties), and Mr. Edmond NG, Superintendent(Corporate and System Management), Centre for Food Safety

背景

二零一九年十一月，食物安全中心(食安中心)發現一些越南出口肉類衞生證明書的文件編號有異，遂立即通知越南駐港領事館查核。經調查後，越南當局確認有八張衞生證明書屬偽造。

衞生證明書是由原產地發證實體發出的證明書，用以證明有關批次食物已通過檢查，可安全供人食用。香港法例規定，進口野味、肉類、家禽及蛋類等某些高風險食物，必須提供衞生證明書。

出口國/地發證實體把電子衞生證明書資料直接傳送至食安中心系統，從而減少出現虛假衞生證明書的風險。
Issuing entities of exporting countries/places transmit electronic health certificate data directly to the CFS system, thus minimising the risk of fraud health certificate.

圖1：電子衞生證明書的優點
Figure 1: The advantages of Electronic Health Certification

打擊偽造衞生證明書

雖然各進口國沿用多時的紙本衞生證明書有效確保進口食物安全，但仍有可能出現漏洞，上述事件就是一例。為了改善情況，世界各地的食物安全當局提倡採用電子衞生證明書。

電子衞生證明書加強防偽

採用電子衞生證明書，便可真確、可靠和安全地以電子方式把衞生證明書資料由出口國主管當局傳送予進口國主管當局。電子衞生證明書的要求與紙本證明書的相同，這在國際食物安全機構食品法典委員會發布的指引中有所訂明。電子衞生證明書的核證資料須包括獨有的識別編號，證明書應採用減少偽造風險的設計，並清楚記錄所證明食品的詳情。從保安角度來看，電子衞生證明書的優點明顯勝於紙本證明書，因為第三方可即時進行網上查核，並且難以偽造。

Background

In November 2019, the Centre for Food Safety (CFS) found some discrepancies in the serial numbers of a few health certificates for exported meat issued by the Vietnamese authorities and immediately informed the Consulate General of Vietnam in Hong Kong for verification. After investigation, the Vietnamese authorities identified eight forged health certificates.

Health certificate is a certificate issued by an issuing entity of the place of origin for a consignment of food, showing that it has been inspected and is safe for human consumption. In Hong Kong, the provision of health certificate is a legal requirement for import of certain high risk food such as game, meat, poultry and eggs.

Addressing Forged Health Certificate

While the use of paper health certificate has all along been an effective means adopted by importing countries in ensuring the safety of imported food, the above incident reminds us that there are potential loopholes. To improve the situation, food safety authorities worldwide advocate the use of electronic health certification.

Electronic Health Certification Enhances Security

Electronic health certification is the authenticated, trustable and secure electronic transmission of health certification data from the competent authority of the exporting country to its counterpart of the importing country. The requirements for electronic health certificate are the same as those for paper certificate, which are laid down in the guidelines promulgated by Codex, the

焦點個案
Incident in Focus

與其他主管當局建立電子證明書系統

食安中心已經與三個海外國家，包括自二零一一年起與新西蘭和澳洲以及自二零一七年起與荷蘭，建立了電子衞生證明書系統。此外，食安中心最近與內地當局簽署了政府對政府的電子衞生證明書資料交換合作協議，暫定由二零二零年第一季起實施。食安中心會繼續尋求與其他國家/地區建立電子證明書系統。

「食物貿易商入門網站」是食物貿易商與食安中心之間的一站式24小時溝通平台，令進口程序便捷準確。
The FTP serves as a one-stop, round-the-clock communication platform between food traders and the CFS and makes the importing process convenient, accurate and fast.

圖2：「食物貿易商入門網站」的優點
Figure 2: The advantages of the Food Trader Portal.

食物貿易商入門網站

除了採用電子衞生證明書，優化資訊科技系統同樣有助加強食物安全管制。食安中心於去年十二月推出了「食物貿易商入門網站」(入門網站)——這個便利食物貿易商營運的全新資訊科技系統。簡單而言，入門網站是食物貿易商與食安中心之間的一站式電子溝通平台，主要網上功能包括食物商登記、食物進口申請及食物進口相關資料查詢，而且服務是24小時提供。

食安中心會分階段在入門網站推出多項便利業界的措施，包括優化進口許可證及進口准許的式樣及申請表。屆時食物貿易商可隨時免費使用網上服務，無需派員親身到食安中心遞交申請表。他們可透過入門網站接收和下載進口許可證及進口准許，節省管理紙本文件的時間。與此同時，食安中心會縮短某些類別進口許可證的申請處理時間，例如由一個完整的工作天縮短至4小時。

入門網站還透過採用電子衞生證明書，提供另一個申請進口許可證的簡便方式：在入門網站選出適當的衞生證明書後，進口商只需在電子裝置上點擊數下，即可完成許可證申請。由於電子數據由發證實體直接傳送，故可確保資料安全準確。此外，入門網站會就申請資料進行初步核對，如發現有異，例如輸入的衞生證明書編號與之前的申請個案有所重複時，便會提醒進口商。

為準備推出入門網站，食安中心舉辦了培訓課程，讓食物貿易商親身體驗如何操作入門網站，並製作了一系列推廣和講解入門網站操作的影片，上載至入門網站專頁(https://www.ftp.cfs.gov.hk)。隨着入門網站的推出，食物貿易商可享用方便快捷的網上服務，不受時地限制。同時，食安中心得以把收集和管理進口食物資料的能力有系統地進一步提升，從而加強食物安全管制的工作，保障市民健康。

注意事項

- 採用電子證明書可加強真確性及完整性，從而減少出現虛假衞生證明書的風險。
- 食安中心推出了一個便利食物貿易商營運的全新資訊科技系統「食物貿易商入門網站」，功能包括向食安中心遞交網上申請。
- 食安中心鼓勵食物貿易商盡早開立使用者帳戶，以享用入門網站所提供的便捷服務。

Establishment of Electronic Certification with Other Authorities

The CFS has established e-health certificate system with three overseas countries, including New Zealand and Australia since 2011 and the Netherlands since 2017. In addition, we have recently signed a co-operation agreement with the Mainland authority on government-to-government electronic health certificate data exchange in the 1st quarter of 2020 tentatively. The CFS will keep exploring with other countries/places on the development of electronic certification.

Food Trader Portal

In parallel, enhancement of the information technology (IT) system will also help strengthen food safety control along with the use of e-health certificate. The CFS has launched the Food Trader Portal (FTP), a new IT system that facilitates the business operations of food traders, in last December. In brief, the FTP serves as a one-stop electronic communication platform between food traders and the CFS, with key online functions including trader registration, food import applications and enquiry on food import related information on a round-the-clock basis.

The CFS will by phases introduce in the FTP a number of trade facilitating measures, including the use of optimised formats and application forms for import licence and import permission. Food traders will then be able to make use of the free online services anytime without having to send their staff to submit application forms in person at the CFS. They can receive and download the import licence and import permission in the FTP. The time required for managing paper documents will be saved. Meanwhile, the CFS will shorten the processing time for certain types of import licence application, e.g. from a full working day to 4 hours.

The FTP also provides another simple and convenient way to apply for an import licence through using electronic health certification: by selecting the appropriate health certificate in the FTP, an importer may complete a licence application with just a few clicks on an electronic device. As the electronic data are transmitted directly from the issuing entities, data security and accuracy are guaranteed. Besides, the FTP will conduct some preliminary checking on the application information and alert the importer if abnormality is detected, for example, when a health certificate number duplicated with a preceding application case has been input.

In preparation for the rollout of the FTP, the CFS has organised training sessions to provide hands-on experience of using the FTP for food traders. A series of promotional and tutorial videos on how to use the FTP have been produced and uploaded to the FTP website (www.ftp.cfs.gov.hk). With the deployment of the FTP, food traders will be able to enjoy the convenient and fast online services without any restrictions on time and place. In the meantime, the capacity of the CFS for collection and management of imported food data will be further enhanced systematically, thereby strengthening its work on food safety control to safeguard the public's health.

Key Points to Note

- Electronic certification enhances authenticity and integrity, thus minimising the risk of fraud health certificate.
- The CFS has launched the FTP, a new IT system that facilitates the business operations of food traders including submission of online applications to the CFS.
- Food traders are encouraged to open user accounts early to enjoy the convenient and fast services offered at the FTP.

食物安全平台
Food Safety Platform

食用油脂中的芥酸

Erucic Acid in Edible Fats and Oils

食物安全中心風險評估組
科學主任孫蓉莉博士報告

Reported by Dr. Lily SUEN, Scientific Officer,
Risk Assessment Section, Centre for Food Safety

上一期我們探討了食用油脂在生產過程中可能產生的其中一種污染物—苯並[a]芘，今期我們會把討論的焦點放在芥酸—這種天然存在於油中，並同樣可能構成安全隱憂的化學物。

In the last issue, we looked into benzo[a]pyrene (B[a]P), one of the potential contaminants formed in edible fats and oils during the production process. This time, we will focus on erucic acid, a naturally occurring chemical which may also cause potential safety concern in our oils.

菜籽 Rapeseed

芥花籽油 Canola oil

圖3：芥花籽油產自以自然雜交方式培植出來的菜籽植物，芥酸含量甚低。
Figure 3. Canola oil is made from the plant developed from natural cross breeding of the rapeseed plant and has very low levels of erucic acid.

什麼是芥酸？有何安全隱憂？

食用油脂由不同的脂肪酸構成，包括飽和脂肪酸、單元不飽和脂肪酸及多元不飽和脂肪酸。芥酸是其中一種單元不飽和脂肪酸，鏈長為22個碳原子，並在奧米加－9位置有一個雙鍵。

芥酸天然存在於芥科(十字花科)植物的油籽中，主要見於菜籽油及芥籽油。芥酸可佔天然菜籽及芥籽所含總脂肪酸的約30至60%。有報告指，芥酸亦存在於一些海洋動物的油脂中。

有別於其他一些可減低心臟病風險的單元不飽和脂肪酸，動物實驗研究發現，從膳食中攝入含有過量芥酸的油可能對健康造成不良影響，而主要影響的器官是心臟。在實驗動物中，最常見的不良影響是心肌脂質沉積，即脂質在心肌纖維中累積，因而降低心肌的收縮力。然而，至今未有證據顯示，人類從膳食中攝入芥酸與心肌脂質沉積有關。

為了保障公眾健康，本地已立例規管食物中芥酸的含量。現時本港法例規定，所有油或脂肪及加有油或脂肪的食物所含的芥酸濃度，不得超過其所含總脂肪酸的5%。

低芥酸菜籽油

有鑑於菜籽含有大量芥酸而可能構成安全隱憂，經過多方面的努力，現已培植出具低芥酸特性的菜籽品種。

目前，在市面上可買到低芥酸含量的菜籽油及芥花籽油。這些油產自低芥酸含量的油籽，*Brassica napus* L.、*Brassica rapa* L.及*Brassica juncea* L.所培植的品種。根據食品法典委員會的資料，這些油所含的芥酸少於總脂肪酸含量的2%。

What is erucic acid and its potential safety concern?

Edible fats and oils are made up of different fatty acids, ranging from saturated fatty acids to monounsaturated and polyunsaturated ones. Erucic acid is one of the monounsaturated fatty acids, having a chain length of 22 carbon atoms with one double bond at the omega 9 position.

Erucic acid naturally occurs in oil-rich seeds of species of the mustard family (Brassicaceae). It is found primarily in rapeseed oil and mustard oil. Erucic acid can constitute about 30 – 60% of the total fatty acids of natural rapeseed and mustard seed. It has also been reported in some marine animal oils.

Unlike some other monounsaturated fatty acids which may reduce the risk of heart disease, experimental animal studies have shown that exposure to diets with oils containing excessive erucic acid may lead to adverse health effects, with the heart as the principal target organ. The most common effect in the experimental animals is myocardial lipidosis, an accumulation of lipids in heart muscle fibres that may reduce the contractile force of heart muscles. So far, no evidence that dietary exposure of erucic acid is correlated to myocardial lipidosis has been established yet in humans nevertheless.

In order to protect the public's health, local statutory requirements have already been in place to control the level of erucic acid in food. Currently in Hong Kong, all oil or fat and food to which oil or fat have been added shall not contain erucic acid with concentration greater than 5% of the total fatty acids.

Low erucic acid rapeseed oil

In response to the potential safety concerns associated with high levels of erucic acid in rapeseed, efforts have been made to produce cultivars with a low erucic acid trait.

Nowadays, rapeseed oils with low levels of erucic acid, including rape oil, colza oil and canola oil, are commercially available. They are produced from low erucic acid oil-bearing seeds of cultivated varieties derived from the *Brassica napus* L., *Brassica rapa* L. and *Brassica juncea* L. species. According to Codex, these oils contain erucic acid level less than 2% of the total fatty acids.

芥花籽油

芥花籽的英文名稱「Canola」是「**Can**adian **o**il, **l**ow **a**cid」的縮寫（意即加拿大研發的低（芥）酸含量食油），是以傳統植物雜交方式除去菜籽植物(花朵呈黃色，有四片花瓣)的不良特性而培植出來的品種。自一九七零年代在加拿大註冊為商標後，canola現已被視為國際通用的名稱，泛指其油的芥酸含量少於2%的食用品種菜籽(見圖3)。

事實上，低芥酸菜籽油只含小量飽和脂肪酸，並含豐富不飽和脂肪酸，可作為我們膳食中其中一種較有益健康的食用油。

Canola oil

The term "Canola" was derived from "**Can**adian **o**il, **l**ow **a**cid". It was developed through conventional cross breeding of the rapeseed plant (flowers are yellow with four petals) with unwanted traits removed. Once registered as a trademark in Canada in 1970s, canola has now been recognised and used internationally as a generic term for edible varieties of rapeseed with erucic acid less than 2% in the oil. (See Figure 3)

In fact, low erucic acid rapeseed oils contain low level of saturated fatty acids and has high proportion of unsaturated fatty acids. They can be considered as one of the healthier oils in our diet.

食物事故點滴
Food Incident Highlight

再有加州蘿蔓生菜因受大腸桿菌污染予以回收
Romaine Lettuce from California Has Been Recalled Again for *E. coli* Contamination

食物安全中心(食安中心)最近暫停加州薩利納斯出產的蘿蔓生菜進口及在港出售，原因是產自該地的蘿蔓生菜與美國多州爆發O157型大腸桿菌感染個案有關。食安中心呼籲市民不要食用受影響的產品，包括預先包裝的蘿蔓生菜及沙律菜。加州蘿蔓生菜受O157型大腸桿菌污染的事故亦曾於二零一八年在美國發生。

從全球角度來看，綠葉蔬菜的食物安全備受關注，主要原因在於綠葉蔬菜大量種植和出口，並經常與各地爆發涉及多人食物中毒的事故有關。如生吃蔬菜，便沒有加熱處理的程序消滅有害的微生物。

孕婦、幼童、長者及免疫力弱人士較易食物中毒。業界宜在餐牌上就生或未煮熟的食物向消費者作出食用忠告。

Recently, the Centre for Food Safety has suspended romaine lettuce produced in Salinas, California from import and for sale within Hong Kong as it was linked to multistate outbreaks of *E. coli* O157 infection in the United States. The public is urged not to consume the affected products including prepackaged romaine lettuce and salad mixes. There was also another incident involving romaine lettuce which was contaminated by *E. coli* O157 in 2018 in the United States.

From a global perspective, leafy green vegetables present a food safety concern, mainly because they are grown and exported in large volume and are found recurrently associated with multiple outbreaks with high numbers of illnesses. When consuming raw vegetables, there is no heat treatment to inactivate harmful microorganisms.

Pregnant women, young children, the elderly and immunocompromised individuals are more susceptible to food poisoning. The trade is encouraged to provide consumer advice on raw or undercooked dishes on the menu.

日本拉麵 — 高鈉陷阱？
Japanese Ramen – A High Sodium Trap?

日本拉麵是廣受歡迎的美食，在食肆或家中都常常享用得到。最近日本有一項研究指出，拉麵店愈盛行的日本縣市，居民的中風死亡率愈高。事實上，製作拉麵往往使用到豉油及其他高鹽調味料。

攝取大量的鈉會造成高血壓等不良影響。食安中心的研究顯示，拉麵的鈉含量約為每碗2000至4000毫克，當中大約一半來自湯底。進食一碗拉麵並喝下湯底，所攝取的鈉已可超出世界衛生組織建議的每日攝取限量，即每日2000毫克鈉。

業界可透過改良食品配方和選用低鹽配料來減低鈉含量。市民吃湯麵時宜盡快吃完，以免麵條吸收過多湯底，並且盡量不要喝湯。

Japanese ramen is a popular dish readily served at restaurants or at home. A recent Japanese study reported that prevalence of ramen restaurants was positively correlated with stroke mortality in Japanese prefectures and cities. Indeed, soy sauce and other condiments rich in salt are often used for preparation of ramen.

High sodium intake contributes to adverse effects like high blood pressure. Our Centre's study revealed that sodium content of ramen ranged from around 2000- 4000mg per bowl. About half of the sodium content came from the soup. Consuming one bowl of noodles with soup could lead to sodium intake exceeding the World Health Organization's recommended maximum daily intake of sodium (i.e. 2000mg/day).

The trade can reduce the sodium content by product reformulation and choosing low salt ingredients. The public is advised to consume the noodles as soon as possible to avoid them soaking too much soup and try not to consume soup.

風險傳達工作一覽（二零一九年十二月）
Summary of Risk Communication Work (November 2019)

事故／食物安全個案 Incidents/ Food Safety Cases: 167	公眾查詢 Public Enquiries: 86	業界查詢 Trade Enquiries: 102	食物投訴 Food Complaints: 302
給業界的快速警報 Rapid Alerts to Trade: 6	給消費者的食物警報 Food Alerts to Consumers: 1	教育研討會/ 演講/ 講座/ 輔導 Educational Seminars/ Lectures/ Talks/ Counselling: 25	上載到食物安全中心網頁的新訊息 New Messages Put on the CFS Website: 47