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焦點個案

Incident in Focus

非洲豬瘟防疫措施的最新進展

Updates on Action against African Swine Fever

食物安全中心屠房(獸醫)組
李芷欣獸醫師報告

Reported by Dr. Samantha Lee, Veterinary Officer,
Slaughterhouse (Veterinary) Section, Centre for Food Safety

二零一九年五月，上水屠房發現兩宗進口豬隻感染非洲豬瘟的個案，其後再於九月三日從抽取的三頭死豬樣本中驗出非洲豬瘟病毒。鑑於香港的獨特情況，並汲取了首兩宗個案的經驗，食物安全中心採用了新的管制措施，下文將詳加闡述。

Following two cases of African Swine Fever (ASF) detected in imported pigs in May, ASF virus was detected in samples collected from three dead pigs at Sheung Shui Slaughterhouse (SSSH) on 3 September 2019. In light of Hong Kong's unique situation and learning from the first two incidents, the Centre for Food Safety has adopted new control measures. These measures are elaborated below:



Ante-mortem Inspection
宰前檢驗



Post-mortem Inspection
宰後檢驗



Only pig carcasses and offal that are fit for human consumption will be released to the market. 適宜供人食用的屠體和內臟才會運往市場出售。

Fail
不合格

Fail
不合格

Emergency slaughter / Partial condemnation / Total condemnation
緊急屠宰 / 切除不適宜供人食用的部分 / 全隻銷毀

圖1：所有本地和進口豬隻都必須在屠房通過嚴格的宰前及宰後檢驗，確保適宜供人食用，方可運往市場出售。

Figure 1. All local and imported pigs have to undergo ante-mortem and post-mortem inspections in slaughterhouses to ensure they are fit for human consumption before being released to the market.

本港豬肉供應

與一些海外國家不同，本港豬肉市場不僅供應冷藏及冰鮮豬肉，還提供新鮮屠宰活豬的溫體肉。一向以來，溫體肉市場都非常依賴進口。

Hong Kong Pork Supply

Unlike some overseas countries, the Hong Kong pork market comprises not only frozen and chilled pork but also freshly slaughtered "warm" meat derived from live pigs. Traditionally, the warm meat market relies heavily on import.

香港面對的非洲豬瘟防疫挑戰

在世界動物衛生組織第87屆大會上，該組織副總幹事馬修斯通博士表示：「中國在今後多年都要應對非洲豬瘟。」鑑於香港十分依賴進口活豬及豬肉產品，

ASF Challenges Faced by Hong Kong

"China is going to deal with this African Swine Fever for many years to come.", remarked by Dr. Matthew Stone, Deputy Director-General of the World Organisation for Animal Health (OIE) at the 87th OIE General Assembly, With Hong Kong's heavy reliance on import for live pigs and pig products,



即使已採取了一系列防疫措施去防範來自源頭及供應鏈的非洲豬瘟病毒，但再次出現非洲豬瘟個案的風險仍然存在。

針對九月發現的非洲豬瘟個案所採取的措施

非洲豬瘟不會感染人類或構成食物安全風險，但如傳入本港，可嚴重打擊本地養豬業。在五月發現首兩宗非洲豬瘟個案後，政府經考慮本地及海外專家的意見，並得到活豬業界的支持，實施了俗稱「日日清」的措施，所有運到屠房的活豬會在24小時內屠宰。屠房內不同位置的豬欄每日均會清空，以進行徹底清潔消毒。由於豬隻在屠房的逗留時間短，加上運豬車的清潔消毒亦有所加強，新安排可大大減低非洲豬瘟在本港傳播的風險。此外，漁農自然護理署亦實施了多項針對非洲豬瘟的防疫措施，其中包括要求豬農採取妥善的生物安全措施、嚴格控制車輛及人員在豬場的進出、加固豬場的圍欄以防止野豬闖入、建議豬農禁止員工攜帶豬肉及豬肉產品進入豬場、加強對進出豬場的車輛及人員進行清潔消毒，以及小心處理排泄物等。

世界動物衛生組織與聯合國糧食及農業組織非洲豬瘟常設專家小組於二零一九年七月舉行了第二次會議，會上專家就針對非洲豬瘟的防控措施作出深入討論。他們認為每個地區應考慮本身的情況，例如飼養密度、活豬供求等因素，來制訂有效可行的本地管制措施。鑑於上水及荃灣屠房實施了「日日清」措施，專家(包括政府較早前諮詢的其他專家)認為非洲豬瘟病毒在本港傳播和感染其他豬隻的可能性已大大降低。因此，如在本地屠房發現豬隻感染非洲豬瘟病毒，未必需要關閉屠房和銷毀所有豬隻，因為只有在屠房通過嚴格的宰前及宰後檢驗以確保適宜供人食用的豬隻，才會運往市場出售。豬肉須加以煮熟，方可食用。

even though a package of preventive measures have been put in place to guard against ASF from the sources and along the supply chain, the risk of further occurrence of ASF cases remains.

Action against ASF Case Detected in September

While ASF does not infect humans or pose food safety risk, it could have devastating impact on the local pig rearing trade if it establishes its foothold in Hong Kong. After the first two ASF cases in May, the Government, having taken into account the views of local and overseas experts and with the support of live pig trade, has imposed a daily clearance arrangement whereby all live pigs are slaughtered within 24 hours upon admittance into the slaughterhouse. Lairages in different areas of the slaughterhouse are cleared out for thorough cleansing and disinfection on a daily basis. Since the period for pigs staying in the slaughterhouse is short, together with enhanced cleansing and disinfection of pig carrying vehicles, the new arrangement can significantly reduce the risk of ASF spreading in Hong Kong. In addition, the Agriculture, Fisheries and Conservation Department has implemented various preventive measures against ASF, among others, including requesting pig farmers to adopt proper biosecurity measures, strictly controlling the vehicles and personnel entering pig farms, strengthening periphery of pig farms to prevent wild pigs from entering, recommending pig farmers to ban staff from bringing pork and pork products into the farms, enhancing the cleansing and disinfection of vehicles and personnel entering and leaving pig farms as well as carefully handling excrement, etc.

At the second meeting of the Standing Group of Experts on ASF organised by the OIE and the Food and Agriculture Organization of the United Nations in July 2019, experts had an in-depth discussion on the prevention and control measures against ASF. They opined that each region should take its own situation, such as the stocking density, demand and supply of live pigs, etc. into consideration in formulating effective and practical local control measures. Given that both SSSH and Tsuen Wan Slaughterhouse have already implemented the daily clearance arrangement, the experts, in addition to other experts the government consulted earlier, considered that the possibilities of infection and spread of the virus to other pigs in Hong Kong have been largely minimised. Therefore, if ASF virus is detected in pigs in a local slaughterhouse, closure of the slaughterhouse and culling of all pigs present might not be necessary. After all, only pigs that are fit for human consumption will be released to the market after stringent ante-mortem and post-mortem inspections in slaughterhouses. Pork should be well cooked before consumption.

注意事項

- 非洲豬瘟不會感染人類，也不會構成食物安全問題。
- 當局已加強針對非洲豬瘟的防疫措施，以大大降低非洲豬瘟病毒在本港傳播和感染其他豬隻的可能性。
- 如在本地屠房發現非洲豬瘟個案，未必需要關閉屠房和銷毀所有豬隻，因為只有適宜供人食用的豬肉，才會運往市場出售。

Key Points to Note

- ASF does not infect humans and has no food safety concern.
- Enhanced preventive measures against ASF have been implemented to largely minimise the possibilities of infection and spread of ASF virus to other pigs in Hong Kong.
- If ASF is detected in a local slaughterhouse, closure of the slaughterhouse and culling of all pigs present might not be necessary. Only pork that is fit for human consumption will be released to the market.

不同種類的膳食脂肪與健康

Different Types of Dietary Fats and Health

食物安全中心風險傳達組科學主任陳蓉蓉女士及
風險評估組科學主任林伏波博士報告

Reported by Ms. Melva CHEN, Scientific Officer, Risk Communication Section and
Dr. Violette LIN, Scientific Officer, Risk Assessment Section, Centre for Food Safety

膳食中的脂肪可含有不同分量的飽和脂肪及不飽和脂肪(包括單元不飽和脂肪、多元不飽和脂肪及反式脂肪)(圖2)。世界衛生組織(世衛)指出,以多元不飽和脂肪及單元不飽和脂肪來取代飽和脂肪及反式脂肪,對心臟有益。

Dietary fats may contain different levels of saturated fats and unsaturated fats (including monounsaturated fats, polyunsaturated fats and trans fats) (Figure 2). According to the World Health Organization (WHO), replacing saturated fats and trans fats with polyunsaturated fats and monounsaturated fats is good for your hearts.

脂肪知多少

脂肪與碳水化合物及蛋白質都是人類膳食中的能量來源。脂肪是最濃縮的能量來源,每克提供9千卡能量。脂肪在人體內亦有多項其他重要功能,例如運送脂溶性維他命A、D、E及K,以及構成細胞膜。

然而,攝入過量脂肪會導致嚴重的健康問題,包括增加患上心臟病、肥胖症、高血壓、糖尿病及某些癌症的風險。為了預防上述非傳染性疾病,世衛建議總脂肪只應佔總能量攝入量的15至30%。以一個每日所需能量約為2000千卡的人為例,每日攝入的能量只應有300至600千卡來自脂肪(約33至67克)。

不同種類的膳食脂肪

肉類、奶製品、種子、堅果及煮食油脂是不同種類膳食脂肪的來源。

飽和脂肪

飽和脂肪會增加低密度脂蛋白(「壞」)膽固醇,因而增加心臟病風險。飽和脂肪的來源為:來自動物的脂肪,例如牛肉、羊肉、豬肉、家禽、牛/羊脂、豬油及奶製品(例如芝士、忌廉及全脂奶),以及一些熱帶油,例如棕櫚油、棕櫚核仁油及椰子油。飽和脂肪的攝入量應少於每日所需總能量的10%(約20克)。

單元不飽和脂肪及多元不飽和脂肪

單元不飽和脂肪及多元不飽和脂肪是健康飲食的重要部分。以多元不飽和脂肪及單元不飽和脂肪來取代飽和脂肪,可減少「壞」膽固醇。世衛認為,含豐富單元不飽和脂肪的油(例如芥花籽油、橄欖油、花生油,以及來自堅果及牛油果的油)或含豐富多元不飽和脂肪的油(例如粟米油、葵花籽油、大豆油、紅花油,以及來自油脂較多的魚類、核桃及種子的油)較為有益健康。

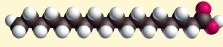



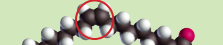



脂肪酸種類 Types of Fatty Acids	來源例子 Examples of Sources	對健康的影響及攝入量建議 Health Impacts and Intake Recommendations
飽和 Saturated  <ul style="list-style-type: none"> 不含雙鍵 直線結構 在室溫下呈固體狀 No double bond Straight structure Solid at room temperature 	 牛肉 Beef 牛油 Butter 椰子油 Coconut oil	<ul style="list-style-type: none"> 增加心臟病風險 每日少於20克飽和脂肪(以2000千卡膳食計算) Increase risk of heart disease Less than 20g of saturated fats per day (for a 2000 kcal diet)
反式 Trans  <ul style="list-style-type: none"> 在結構上含有一個或以上反式雙鍵 直線結構 在室溫下呈半固體/固體狀 One or more double bonds in trans configuration Straight structure Semi-solid/Solid at room temperature 	 人造牛油 Margarine 酥皮忌廉湯 Cream soup with puff pastry 雞批 Chicken pie	<ul style="list-style-type: none"> 增加心臟病風險 每日少於2.2克反式脂肪(以2000千卡膳食計算) Increase risk of heart disease Less than 2.2g of trans fats per day (for a 2000 kcal diet)
單元不飽和 Monounsaturated  <ul style="list-style-type: none"> 在結構上含有一個順式雙鍵 彎曲結構 在室溫下呈液體狀 One double bond in cis configuration Bent structure Liquid at room temperature 	 橄欖油 Olive oil 芥花籽油 Canola oil 花生油 Peanut oil	<ul style="list-style-type: none"> 可減低心臟病風險 適量攝入單元不飽和脂肪 May reduce risk of heart disease Moderate intake of monounsaturated fats
多元不飽和 Polyunsaturated  <ul style="list-style-type: none"> 在結構上含有多個順式雙鍵 更彎曲的結構 在室溫下呈液體狀 Multiple double bonds in cis configuration Even more "bent" in structure Liquid at room temperature 	 大豆油 Soybean oil 粟米油 Corn oil 油脂較多的魚類 Fatty fish	<ul style="list-style-type: none"> 可減低心臟病風險 適量攝入多元不飽和脂肪 May reduce risk of heart disease Moderate intake of polyunsaturated fats

圖2:膳食脂肪種類一覽
Figure 2. Summary of Types of Dietary Fats

The Facts about Fats

Fats together with carbohydrates and protein are sources of energy in the human diet. Fats are the most concentrated energy source providing 9 kcal per gram. Fats also have many other important functions in the body such as carrying fat-soluble vitamins (i.e. A, D, E and K) and serving as structural components of cell membrane.

However, excessive fat intake has been linked to major health problems, including an increased risk of heart disease, obesity, hypertension, diabetes and certain types of cancers. For preventing non-communicable diseases mentioned above, the WHO recommends 15 - 30% of total energy from total fats. For example, if a person needs about 2,000 kcal a day, 300 - 600 kcal of them should come from fats (about 33 - 67 grams) per day.

Different Types of Dietary Fats

Meats, dairy products, seeds, nuts, cooking oils and fats are sources of different types of dietary fats.

Saturated fats

Saturated fats increase low-density lipoprotein (LDL) ("bad") cholesterol and the risk of heart disease. Sources of saturated fats are: fats from animals such as beef, lamb, pork, poultry, tallow, lard and dairy products (e.g. cheese, cream and whole milk), and some tropical oils, such as palm oil, palm kernel oil and coconut oil. Intake of saturated fats should be less than 10% of total energy intake (about 20 grams) per day.

Monounsaturated fats and Polyunsaturated fats

Monounsaturated fats and polyunsaturated fats are important parts of a healthy diet. Replacing saturated fats with polyunsaturated fats and monounsaturated fats decrease the "bad" cholesterol. The WHO considers oils rich in monounsaturated fats (e.g. canola oil, olive oil, peanut oil and oils from nuts and avocado) and polyunsaturated fats (e.g. corn oil, sunflower oil, soybean oil, safflower oil and oils from fatty fish, walnuts and seeds) as healthier oils.

Trans fats

Trans fats are the worst type of fats for heart health. Most trans fats are

反式脂肪

反式脂肪是對心臟健康最壞的脂肪。大部分反式脂肪是工業生產的，但牛與羊的肉及奶製品或含少量反式脂肪。反式脂肪不單使「壞」膽固醇增加，亦同時減少高密度脂蛋白(「好」)膽固醇。世衛建議，反式脂肪的攝入量應少於每日所需總能量的1%(約2.2克)。要特別注意的是，工業生產的反式脂肪並非健康飲食的一部分，必須避免。工業生產的反式脂肪存在於含部分氫化油的食物中，例如人造牛油、植物起酥油及烘焙/油炸食品。

選擇較為有益健康的油脂

煮食油脂含有不同成分的飽和脂肪及不飽和脂肪。上述世衛所建議的各類較為有益健康的油，可在本地市面上買到。消費者可參閱煮食油脂及其他預先包裝食品上的營養標籤，辨別哪些含有較少飽和脂肪或不含反式脂肪，從而作出知情的選擇。

industrially produced, although a small amount of trans fats may be present in the meat and dairy products of beef and lamb. Trans fats not only increase the “bad”, but also decrease the high-density lipoprotein (HDL) “good” cholesterol. The WHO suggests that the intake of trans fats should be less than 1% of total energy intake (about 2.2 grams) per day. In particular, industrially produced trans fats are not part of a healthy diet and have to be avoided. They are found in foods containing partially hydrogenated oils such as margarine, vegetable shortenings and baked/fried foods.

Choosing Healthier Oils and Fats

Cooking oils and fats contain different profiles of saturated fats and unsaturated fats. A variety of healthier oils mentioned by the WHO are available on the local market. Consumers can make informed food choices by using the nutrition labels on cooking oils/fats and other pre-packaged food products to identify those containing lower saturated fats and no trans fats.

食物事故點滴

Food Incident Highlight

上月，衛生防護中心報告一宗懷疑草酸鈣針晶體中毒個案。一名病人進食了在路邊採摘的野生芋頭後，隨即出現舌頭與嘴唇麻痺腫脹、嘔吐及上腹痛病徵。

一些外形類似芋頭的植物，例如海芋(亦稱野芋)的葉和塊莖，可能含有草酸鈣針晶體，這些微小的針狀晶體可滲入皮膚及黏膜，引起刺激。

消費者應注意：(1)切勿採食野芋；(2)向可靠的供應商購買蔬菜；(3)去除任何混在食用蔬菜中的不明植物/異物；以及(4)蔬菜須徹底洗淨，方才烹煮和食用。業界不應在運送及加工處理期間以野芋葉覆蓋蔬菜。



圖3: 類似芋頭的植物
Figure 3. Taro-like plants

野芋中的草酸鈣針晶體刺激皮膚及黏膜 ◀◀ Calcium Oxalate Raphides in Wild taro Irritate the Skin and Mucous Membranes

Last month, the Centre for Health Protection reported a case of suspected calcium oxalate raphide poisoning. The patient developed numbness and swelling over tongue and lips, vomiting and epigastric pain shortly after consuming a wild taro tuber she picked from roadside.

Some plants may look like taro, e.g. Giant Alocasia (also known as wild taro) and may contain calcium oxalate raphides (tiny needle-shaped crystals of the chemical) in its leaves and tubers. These needle-shaped crystals can penetrate the skin and mucous membranes and cause irritation.

Consumers are reminded: 1) not to pick and consume wild taro; 2) to purchase vegetables from reliable suppliers; 3) to remove any unidentified plants/objects mixed with edible vegetables; and 4) to wash vegetables thoroughly before cooking and consumption. The trade should not use the leaves of wild taro to cover vegetables during transportation and processing.

黑木耳浸泡不當可產生有毒米酵菌酸 ◀◀ Black Fungus Soaked Improperly May Produce Toxic Bongkrekkic Acid

有報道指，中國內地及印尼發生與米酵菌酸有關的嚴重食物中毒個案，涉事食物包括黑木耳及一些發酵椰子或粟米產品。上述食物的原材料及產品均有可能在不當的製作過程及貯存情況下受到污染。

米酵菌酸由椰毒伯克霍爾德氏菌產生，這種細菌在土壤及植物中無處不在，最佳生長溫度為攝氏37度，而最適合產生米酵菌酸這種毒素的溫度約為攝氏26度。米酵菌酸耐熱，而且沖洗不去。米酵菌酸中毒的病人可能出現腹痛及嘔吐等病徵。情況嚴重者可引致肝功能異常，甚至死亡。

為了預防米酵菌酸中毒，如需過夜泡發黑木耳，應放入雪櫃內。所有接觸食物的器具及表面應加以徹底清潔，方可調製食物。

There were reports about severe food poisoning cases related to bongkrekkic acid in Mainland China and Indonesia. Incriminated food items included black fungus and some fermented coconut or corn products. Both raw materials and products of these food items can be contaminated by bongkrekkic acid during improper preparation and storage.

Bongkrekkic acid is produced by the bacterium, *Burkholderia cocovenenans*, which is ubiquitous in the soil and plants. It grows best at 37°C and can optimally produce bongkrekkic acid at about 26°C. Bongkrekkic acid is heat-stable and cannot be removed by washing. Patients suffering from bongkrekkic acid poisoning may show symptoms including abdominal pain and vomiting. For severe cases, it might cause deranged liver function and even death.

To prevent bongkrekkic acid poisoning, black fungus should be kept in the refrigerator if overnight soaking is needed. All utensils and surfaces which will come into contact with food should be cleaned thoroughly before food preparation.



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