

The First Hong Kong Total Diet Study

**The First Hong Kong Total Diet Study:
Methodology**

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Centre for Food Safety

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Contents

	<u>Page</u>
Abstract	1
Introduction	2
Objectives and Scopes of the First Hong Kong Total Diet Study (1st HKTDS)	3
Methodology	4
Food consumption data	
TDS food selection	
Sampling and preparation of food	
Substances covered	
Laboratory analysis	
Dietary Exposure Estimation Method	7
Data interpretation	
Food mapping	
Exposure estimation	
Limitations	
Summary	10
References	12
Appendices	13
Appendix 1: List of TDS food items in TDS food groups of the 1 st HKTDS	14
Appendix 2: Food preparation instructions	21
Appendix 3: List of substances covered in the 1 st HKTDS (revised October 2012)	28
Appendix 4: Food mapping	30

ABSTRACT

The Centre for Food Safety (CFS) is conducting the first Hong Kong Total Diet Study (1st HKTDS) aiming to estimate dietary exposures of the Hong Kong population and various population subgroups to a range of substances, including contaminants and nutrients, and thus assess any associated health risks. This report describes the methodology of the 1st HKTDS.

The 1st HKTDS is a large and complex project that comprises sampling and food preparation, laboratory analysis and dietary exposure estimation. The sampling and food preparation of 150 TDS food items were done on four occasions from March 2010 to February 2011.

Over a hundred substances including contaminants such as persistent organic pollutants (POPs), pesticide residues, mycotoxins, metallic contaminants, processing contaminants and nutrients are subject to test in the respective food samples. The laboratory analyses are conducted by Food Research Laboratory (FRL) of CFS or Government Laboratory (GL).

Dietary exposures to individual substances for average and high consumers of the population as well as various age-gender population subgroups would be estimated and compared with the relevant safety reference values or nutritional reference values so as to assess their associated health risks. Reports on dietary exposure assessment of individual substances would be published separately.

The First Hong Kong Total Diet Study:

Methodology

Introduction

Total Diet Study (TDS) has been recognised internationally as one of the most cost effective way to estimate dietary exposures to food chemicals or nutrients for various population groups and to assess their associated health risks. TDS is a large and complex project, involving purchasing foods commonly consumed, preparing them as normally consumed, combining them and analysing them for a range of substances. It provides a scientific basis for assessing food safety risks and regulating food supply. It can also facilitate risk managers to focus their limited resources on food chemicals or nutrients that may pose the greatest risks to public health.

2. Since 1960s, various countries, such as the United Kingdom, the United States of America (USA), Canada, Australia, New Zealand and Mainland China, have been conducting their own TDS. The frequency for conducting TDS varies from country to country. For instance, TDS in the USA has been an ongoing programme since 1960s, whereas Mainland China has started to conduct TDS since 1990 and the fourth TDS was conducted in 2007.

3. Previous risk assessment studies conducted by the Food and Environmental Hygiene Department (FEHD) focused on individual food chemical hazards for a specific population group, namely secondary school students in Hong Kong. With the availability of local food consumption data from the Hong Kong Population-based Food Consumption Survey (FCS)¹, dietary exposure studies can be expanded by incorporating a TDS approach for providing more comprehensive and accurate information on the dietary exposure of the Hong Kong people.

4. This was the first time TDS is being carried out in Hong Kong to determine the dietary exposures of the Hong Kong people to over 130 different substances. This report describes the methodology of the first Hong Kong Total Diet Study (1st HKTDS) while the reports on dietary exposure assessment of individual substances would be published separately.

Objectives and Scopes of the 1st HKTDS

5. The 1st HKTDS aims to estimate dietary exposures of the Hong Kong population and various population subgroups to a range of substances, including contaminants and nutrients, and thus assess any associated health risks.

6. The 1st HKTDS covered the majority of food normally consumed by the Hong Kong people. Over 130 substances, including contaminants and nutrients, would be analysed in groups for their concentrations in the food

samples. Dietary exposures to individual substances of the population would then be estimated, in order to assess their associated health risks.

Methodology

7. The 1st HKTDS involved purchasing samples of food commonly consumed by Hong Kong people, preparing and combining the foods into food composites, homogenising them, and analysing them for selected substances such as persistent organic pollutants (POPs), pesticide residues, metallic contaminants, mycotoxins, processing contaminants and nutrients, etc. The analytical results of these substances were then combined with food consumption information of various population groups to obtain the dietary exposures.

Food Consumption Data

8. The FCS was conducted in 2005 – 2007 to investigate the food consumption of Hong Kong people aged 20-84 by means of two non-consecutive 24-hour dietary intake (24-hr recall) questionnaires supplemented by a food frequency questionnaire. A total of 5,008 adults participated in the survey. The survey revealed that over 1,400 food items were consumed by the Hong Kong people.

9. The FCS provided the food consumption information of the Hong Kong people such as the types and amounts of food consumed for estimating dietary exposure in the 1st HKTDS.

TDS Food Selection

10. One hundred and fifty different foods were selected to form a TDS food list for analysing their substance levels according to the following criteria: (a) food commonly consumed by the population; and (b) food that is likely to contain high concentrations of concerned substances even their consumptions are low. The list of 150 TDS food items in 15 TDS food groups, as well as the average daily food consumption of each food group, is shown in **Appendix 1**.

Sampling and Preparation of Food

11. The Centre for Food Safety (CFS) has commissioned the Chinese University of Hong Kong (CUHK) to carry out sampling and food preparation work of the 1st HKTDS which was conducted on four occasions over a period of one year from March 2010 to February 2011.

12. On each occasion, three samples of each TDS food item were purchased from various retail outlets in different regions of the territory. A total of 1,800 samples were collected for the study. The three samples of the same food item were then prepared as for normal consumption, i.e. table-ready, in a manner most representative of and consistent with cultural habits in Hong Kong as far as practicable. They were then homogenised individually and combined into a composite sample for laboratory analysis. In other words, 600 composite samples were prepared. The food(s) sampled and the food preparation instructions for each TDS food item are shown in **Appendix 1** and **Appendix 2** respectively.

Substances Covered

13. The study focused on contaminants and nutrients in food. Due to limited resources, prioritisation of substances for analysis was required and the following criteria were adopted in prioritising the substances: (a) recommendation from the international authorities, (b) public health significance, and (c) public concern. Other factors such as time constraint, manpower and laboratory resources were also considered.

14. To this end, over 130 substances were selected for the study, in the following categories: persistent organic pollutants (POPs) (such as dioxins, DDT), pesticide residues (such as organophosphorus and organochlorine pesticides), metallic contaminants (such as inorganic arsenic, methyl mercury), mycotoxins (such as aflatoxins, ochratoxins), processing contaminant (acrylamide), and nutrients (such as saturated fatty acids, elements). They are shown in **Appendix 3**.

Laboratory Analysis

15. Laboratory analyses of substances, except dioxins and dioxin-like polychlorinated biphenyls (PCBs) and polybrominated diphenyl ethers (PBDEs) that are analysed by Government Laboratory (GL), are undertaken by the Food Research Laboratory (FRL) of the CFS. The analytical work is performed in batches with reference to the nature and stability of the substances. The composite samples, except those analysed right after food preparation, are kept frozen at – 20°C until analysis.

16. The testing of substances in the TDS food items depended on the occurrence of the substances in food. In other words, not all TDS food items were required to be tested for all substances. For example, all foods were tested for pesticides residues but mainly foods of animal origin or fatty foods were tested for dioxins.

17. The list of TDS food items tested for individual substances, as well as the laboratory analytical method, would be discussed in the dietary exposure assessment reports of individual substances.

Dietary Exposure Estimation Method

Data interpretation

18. Reliable evaluation of analytical results of substances in foods is important for the dietary exposure estimation. It is very common that analytical results may be reported as non-detectable (i.e. below the limit of detection (LOD)). In such cases, the true value could be anywhere between zero and LOD. The treatment for these results is particularly important when a large proportion of the analytical results are below LOD. The 1st HKTDS would adopt the recommendation of the World Health Organization (WHO) on evaluation of low-level contamination of food in treatment for those non-detected results.² According to the recommendation, half of LOD is used for all results less than LOD when less than or equal to 60% of results are below LOD, while two estimates using zero and LOD for all results less than LOD are produced when more than 60% of results are below LOD.

Food Mapping

19. Food mapping is a matching of food from food consumption surveys to food with concentration data in the dietary exposure assessment. During food mapping, the levels of substances detected in the TDS food items would be assigned to the appropriate food items captured by FCS, as well as food alike or food with similar nature, so as to cover the whole diet of Hong Kong people as far as possible. In addition, conversion factor may also be applied with reference to the differences in water contents between the concerned foods during food mapping. For example, the cooked white rice in TDS food is not just mapped to cooked white rice in the FCS but it is also mapped to congee with the application of conversion factor when assigning the concentration data. Food mapping of individual TDS food items is provided in **Appendix 4**.

Exposure Estimation

20. Dietary exposure to a substance of an individual is estimated by summing over the products of the amounts of food consumed by an individual and their substance levels assigned through food mapping. Depending on the proportion of non-detectable results, the dietary exposure estimates may express as lower, median and upper bound values, which are calculated after treating the non-detectable data as zero, half of LOD and LOD respectively, with reference to the recommendation of WHO as mentioned in para. 18.

21. The mean and 95th percentile of the exposure levels are used to represent the average dietary exposure and the exposure for high consumers

respectively. Dietary exposures of average and high consumers of the Hong Kong population, as well as various population subgroups are then compared with (a) the safety reference values for the food chemical of concern and / or (b) the relevant nutritional reference values for the nutrient of concern to assess the associated health risk. In addition, for assessing the status of nutrient adequacy, the proportion of population with intake above or below the relevant nutritional reference values is also determined.

22. Since a quota sampling by gender and age group was adopted for the recruitment of respondents in FCS, a weighting by age-gender group would be applied to adjust for bias arising from the age-gender quotas when estimating the dietary exposures. The weighting was based on the population distribution by age and gender in the 2006 Population By-census. To perform the weighting, the exposures from different population subgroups would be multiplied by appropriate ratios so that the age and gender distribution of the respondents would resemble that of the population.

23. To perform such complicated calculation of dietary exposures, an in-house developed web-based computer system, Exposure Assessment System, EASY for short, is used.

Limitations

24. In the current study, the exposure estimation is based on the food consumption derived from two non-consecutive 24-hr recalls. More comprehensive data on multiple-day intakes may provide better estimates of

long-term dietary exposure and food consumption, particularly those rarely consumed items.

25. Of the food items captured by the FCS, only a limited number of food items have been sampled in our current study though the majority of food commonly consumed have been covered. To reflect the exposure from the whole diet, a set of food mapping was applied. However, occurrence of various substances in food may vary from substance to substance. For example, for pesticide residues, individual pesticides may only be applied to certain vegetables rather than the whole vegetable group, therefore the assumption of applying pesticide residue levels detected in certain vegetables to the whole vegetable group is conservative, which may lead to overestimate of the dietary exposure. In addition, adoption of a single set of food mapping may also influence the accuracy of the estimates on dietary exposure of individual substances.

Summary

26. This was the first time that TDS is being carried out in Hong Kong, which aimed to estimate the dietary exposure of the population to a range of substances, including contaminants and nutrients and thus assess any associated health risk.

27. The 1st HKTDS is a large and complex project that comprises sampling and food preparation, laboratory analysis and dietary exposure estimation. A total of 1,800 samples of the 150 TDS food items were

collected and prepared into table-ready forms on four occasions from March 2010 to February 2011, and they were then combined into 600 composite samples for laboratory analysis of over 130 different substances. The dietary exposure assessment of individual substances would be reported separately.

References

- ¹ Food and Environmental Hygiene Department (FEHD). Hong Kong Population-Based Food Consumption Survey 2005-2007 Final Report. Hong Kong: FEHD; 2010.
- ² WHO. GEMS/Food-EURO Second Workshop on Reliable Evaluation of Low-level Contamination of Food – Report of a Workshop in the Frame of GEMS/Food-EURO. WHO; May 1995. Available from URL:
http://www.who.int/foodsafety/publications/chem/en/lowlevel_may1995.pdf

Appendices

- Appendix 1: List of TDS food items in TDS food groups of the 1st HKTDS
- Appendix 2: Food preparation instructions
- Appendix 3: List of substances covered in the 1st HKTDS
- Appendix 4: Food mapping

Appendix 1**List of TDS food items in TDS food groups of the 1st HKTDS**TDS food groups:

Food Group	Number of food items	Consumption amount[#] (g/person /day)
Cereals and their products (穀物及穀物製品)	19	491
Vegetables and their products (蔬菜及蔬菜製品)	35	177
Legumes, nuts and seeds and their products (豆類、堅果和種子及其製品)	6	18
Fruits (水果)	17	147
Meat, poultry and game and their products (肉類、家禽和野味及其製品)	12	113
Eggs and their products (蛋及蛋類製品)	3	15
Fish and seafood and their products (魚類和海產及其製品)	19	71
Dairy products (乳類製品)	5	38
Fats and oils (油脂類)	2	8
Beverages, alcoholic (酒精飲品)	2	33
Beverages, non-alcoholic (不含酒精飲品)	10	1625
Mixed dishes (混合食品)	12	222
Snack foods (零食食品)	1	1
Sugars and confectionery (糖類及甜點)	2	5
Condiments, sauces and herbs (調味料、醬油及香草)	5	11
Total	150	2976

Note:

[#] Consumption amount in each food group is the average consumption amount of the Hong Kong population extracted from the Hong Kong Population-based Food Consumption Survey (FSC), which were drawn by combining the food items in that food group after mapping. The weight of liquid food was assumed to be 1 g per 1ml when calculating the consumption amount in each food group

TDS food items in TDS food groups:**Cereals and their products (穀物及穀物製品) (19 items)**

	TDS Food Item	Food(s) sampled
1.	Rice, white (白飯)	Raw white rice
2.	Rice, unpolished (粗磨米飯)	Raw brown rice, raw red rice
3.	Corn (粟米)	Corn on the cob, corn kernel
4.	Noodles, Chinese or Japanese style (麵條(中式或日式))	Egg noodles, Shanghai noodles, udon
5.	Pasta, Western style (麵條(西式))	Macaroni, spaghetti
6.	Instant noodles (即食麵)	Instant noodles, instant rice noodles
7.	Rice noodles (米粉/米線)	Rice noodles
8.	Bread, plain (麵包(無餡))	White bread, wheat bread, plain roll
9.	Bread, raisin (提子包)	Bread/bun with raisin
10.	“Pineapple” bun (菠蘿包)	“Pineapple” bun
11.	Sausage/ham/luncheon meat bun (腸仔/火腿/午餐肉包)	Sausage bun, ham bun, luncheon meat bun
12.	Chinese steamed bread (饅頭)	Chinese steamed bread
13.	Biscuits (餅乾)	Saltine biscuits, sandwich crackers, cookies, wheat crackers
14.	Cakes (蛋糕/西餅)	Cake
15.	Pastries (餡餅)	Egg tart, coconut tart
16.	Pastries, Chinese (中式餅點)	Chinese almond cookie, wife cake, traditional moon cake
17.	Oatmeal (麥皮/燕麥片)	Oatmeal
18.	Breakfast cereals (穀物早餐)	Corn flakes, wheat based breakfast cereals
19.	Deep-fried dough (油炸麵團食品)	Fried fritter, sesame ball

Vegetables and their products (蔬菜及蔬菜製品) (35 items)

	TDS Food Item	Food(s) sampled
1.	Carrot/ Radish (甘筍/蘿蔔)	Carrot, white radish, green radish
2.	Potato (馬鈴薯)	Potato
3.	Potato, fried (炸薯)	French fries, Hash brown
4.	Broccoli (西蘭花)	Broccoli
5.	Cabbage, Chinese (紹菜/黃芽白)	Chinese cabbage
6.	Cabbage, Chinese flowering (菜心)	Chinese flowering cabbage
7.	Cabbage, European variety (椰菜)	European variety cabbage
8.	Cabbage, Petiole Chinese (白菜)	Petiole bok choi/ Petiole Chinese cabbage
9.	Celery (西芹)	Celery
10.	Chinese kale (芥蘭)	Chinese kale/ Chinese broccoli
11.	Chinese spinach (莧菜)	Chinese amaranth/ Chinese spinach
12.	Leaf mustard (芥菜)	Leaf mustard
13.	Lettuce, Chinese (唐生菜)	Chinese lettuce (loose leaf)

14.	Lettuce, European (西生菜)	European lettuce (heading)
15.	Mung bean sprout (綠豆芽/芽菜)	Mung bean sprout
16.	Spinach (菠菜)	Spinach
17.	Water spinach (蕹菜/通菜)	Water spinach
18.	Watercress (西洋菜)	Watercress
19.	Bitter melon (苦瓜)	Bitter melon
20.	Cucumber (青瓜/黃瓜)	Cucumber
21.	Hairy gourd (節瓜)	Hairy gourd
22.	Pumpkin (南瓜)	Pumpkin
23.	Sponge gourd (絲瓜)	Sponge gourd
24.	Wax gourd (冬瓜)	Wax gourd
25.	Zucchini (翠玉瓜)	Zucchini
26.	Eggplant (茄子/矮瓜)	Eggplant
27.	Sweet pepper (燈籠椒)	Sweet pepper
28.	Tomato (番茄)	Tomato
29.	Garlic (蒜頭)	Garlic
30.	Onion (洋蔥)	Onion
31.	Spring onion (葱)	Spring onion
32.	Preserved vegetables (醃製蔬菜)	Preserved mustard /'Mui Choy", Preserved Sichuan mustard, preserved mustard greens, preserved leaf mustard
33.	Mushroom, dried shiitake (乾冬菇)	Winter mushroom/ Shiitake mushroom (dried)
34.	Mushrooms (菇類)	Button mushroom, straw mushroom, "gold-needle" mushroom
35.	Ear fungus (雲耳/木耳)	"Wood-ear" (ear-fungus)

Legumes, nuts and seeds and their products (豆類、堅果和種子及其製品) (6 items)

	TDS Food Item	Food(s) sampled
1.	Green string beans, with pod (青豆角)	Green string beans with pod, French beans with flat pod/ round pod, common bean
2.	Mung bean vermicelli (粉絲)	Mung bean noodles/ Mung bean vermicelli
3.	Beancurd (豆腐)	Soybean curd
4.	Fermented bean products (發酵豆類製品)	Fermented black soybean, fermented bean curd
5.	Peanut (花生)	Peanut with shell, roasted peanut, shelled peanut
6.	Peanut butter (花生醬)	Peanut butter

Fruits (水果) (17 items)

	TDS Food Item	Food(s) sampled
1.	Apple (蘋果)	Apple
2.	Banana (香蕉)	Banana
3.	Dragon fruit (火龍果)	Dragon fruit/ pitaya

4.	Grapes (葡萄/提子)	Grapes
5.	Kiwi fruit (奇異果)	Kiwi fruit
6.	Longan / Lychee (龍眼/荔枝)	Longan, lychee
7.	Mango (芒果)	Mango
8.	Melons (蜜瓜類)	Cantaloupe, honeydew melon
9.	Orange (橙)	Orange
10.	Papaya (木瓜)	Papaya
11.	Peach (桃)	Peach
12.	Pear (梨)	Snow pear, Western pear, tribute pear, crystal pear
13.	Persimmon (柿子)	Persimmon
14.	Pineapple (菠蘿)	Pineapple
15.	Plum (李子/布林)	Plum
16.	Pummelo /Grapefruit (柚子/西柚)	Pummelo, grapefruit
17.	Watermelon (西瓜)	Watermelon

Meat, poultry and game and their products (肉類、家禽和野味及其製品) (12 items)

	TDS Food Item	Food(s) sampled
1.	Beef (牛肉)	Beef, beef steak, beef flank
2.	Mutton (羊肉)	Mutton/ Lamb
3.	Pork (豬肉)	Pork, pork chop, pork rib
4.	Ham (火腿)	Ham
5.	Luncheon meat (午餐肉)	Luncheon meat
6.	Barbecued pork (叉燒)	Barbecued pork
7.	Roasted pork (燒肉)	Roasted pork
8.	Pig liver (豬脷/豬肝)	Pig liver
9.	Chicken meat (雞肉)	Chicken thigh (de-boned), chicken breast fillet, whole chicken
10.	Chicken, soy sauce (豉油雞)	Soy sauce chicken
11.	Roasted duck/goose (燒鴨/燒鵝)	Roasted duck, roasted goose
12.	Meat sausage (肉腸)	Meat sausage (chicken sausage, pork sausage, etc.), meat and cheese sausage

Eggs and their products (蛋及蛋類製品) (3 items)

	TDS Food Item	Food(s) sampled
1.	Egg, chicken (雞蛋)	Chicken egg (whole)
2.	Egg, lime preserved (皮蛋)	Lime preserved egg
3.	Egg, salted (鹹蛋)	Salted egg

Fish and seafood and their products (魚類和海產及其製品) (19 items)

	TDS Food Item	Food(s) sampled
1.	Fish, Big head (大頭魚)	Big head
2.	Fish, Mandarin fish (桂花魚)	Freshwater grouper/ Mandarin fish
3.	Fish, Grass carp (鯪魚)	Grass carp
4.	Fish, Golden thread (紅衫)	Golden thread
5.	Fish, Grouper (海斑)	Leopard coral grouper, green grouper, tiger grouper
6.	Fish, Horse head (馬頭)	Horse head
7.	Fish, Pomfret (鯧魚(鱸魚))	Pomfret
8.	Fish, Sole (龍脷/撻沙)	Sole fillet
9.	Fish, Tuna (吞拿魚/金槍魚)	Tuna
10.	Fish, Grey mullet (烏頭)	Grey mullet
11.	Fish, Salmon (三文魚)	Salmon
12.	Fish, Yellow croaker (黃花魚)	Yellow croaker
13.	Fish, Dace, minced (絞鯪魚肉)	Minced dace
14.	Fish ball/fish cake (魚蛋/魚片)	Fish ball, fish cake
15.	Shrimp/ Prawn (蝦)	Shrimp/prawn
16.	Crab (蟹)	Mud crab, red crab, blue crab, mitten crab/ freshwater hairy crab
17.	Oyster (蠔)	Oyster
18.	Scallop (扇貝/帶子)	Scallop
19.	Squid (魷魚)	Squid

Dairy products (乳類製品) (5 items)

	TDS Food Item	Food(s) sampled
1.	Milk, whole (全脂奶)	Whole milk
2.	Milk, skim (脫脂奶)	Skim milk
3.	Cheese (芝士)	Cheddar cheese, Mozzarella cheese
4.	Yoghurt (乳酪)	Yoghurt
5.	Ice-cream (雪糕)	Ice-cream (including ice-cream bar, cup and family pack)

Fats and oils (油脂類) (2 items)

	TDS Food Item	Food(s) sampled
1.	Butter (牛油)	Butter
2.	Oil, vegetable (植物油)	Corn oil, peanut oil, canola oil, olive oil

Beverages, alcoholic (酒精飲品) (2 items)

	TDS Food Item	Food(s) sampled
1.	Beer (啤酒)	Beer
2.	Red wine (紅酒)	Red wine

Beverages, non-alcoholic (不含酒精飲品) (10 items)

	TDS Food Item	Food(s) sampled
1.	Tea, Chinese (中國茶)	Pu-er, Jasmin, Longjing, Tieguanyin; tea leaves or tea bags
2.	Tea, milk tea (奶茶)	Milk tea
3.	Coffee (咖啡)	Coffee
4.	Malt drink (麥芽飲品)	Horlick's, Ovaltine, Milo; instant powder mix(3-in-1)
5.	Soyabean drink (豆奶飲品)	Soybean drink, Soybean milk
6.	Fruit and vegetable juice (蔬果汁)	Orange juice, apple juice, watermelon juice
7.	Carbonated drink (汽水)	Cola, lemonade, cream soda, orange soda; regular
8.	Tea, chrysanthemum (菊花茶)	Chrysanthemum tea
9.	Water, bottled, distilled (樽裝蒸餾水)	Bottled distilled water
10.	Water, drinking (飲用水)	Tap water

Mixed dishes (混合食品) (12 items)

	TDS Food Item	Food(s) sampled
1.	Siu mai (燒賣)	Shrimp siu mai
2.	Dumpling, steamed (蒸餃子)	Shrimp dumpling/Har gau, Shanghai-style steamed pork dumpling, steamed dumpling with pork and vegetables
3.	Dumpling, pan-fried (煎餃子)	Pan-fried dumpling stuffed with pork and vegetables, Gyoza
4.	Dumpling, boiled, including wonton (雲吞/水餃)	Dumpling in soup/ Wonton with shrimp or pork and vegetables
5.	Steamed barbecued pork bun (叉燒包)	Steamed barbecued pork bun
6.	Turnip cake (蘿蔔糕)	Turnip cake
7.	Steamed minced beef ball (牛肉球)	Steamed minced beef ball
8.	Glutinous rice dumpling (糰)	Glutinous rice dumpling with pork, glutinous rice wrapped in lotus leaf
9.	Steamed rice-rolls with filling (腸粉(有餡))	Steamed rice-rolls with beef, barbecued pork and vegetables
10.	Steamed rice-rolls, plain (淨腸粉)	Plain steamed rice-rolls
11.	Chinese soup (中式湯水)	Chinese soup
12.	Hamburger (漢堡包)	Fish burger, chicken burger, sausage muffin burger, hamburger (beef burger)

Snack foods (零食食品) (1 item)

	TDS Food Item	Food(s) sampled
1.	Potato chips (薯片)	Potato chips

Sugars and confectionery (糖類及甜點) (2 items)

	TDS Food Item	Food(s) sampled
1.	Chocolate (朱古力/巧克力)	Plain milk chocolate, plain dark chocolate, chocolate with inclusions
2.	Granulated white sugar (白砂糖)	Granulated white sugar

Condiments, sauces and herbs (調味料、醬油及香草) (5 item)

	TDS Food Item	Food(s) sampled
1.	Table salt (餐桌鹽 (幼鹽))	Table salt
2.	Soya sauce (豉油)	Light soya sauce, dark soya sauce, Japanese soya sauce
3.	Oyster sauce (蠔油)	Oyster sauce
4.	Tomato paste/ ketchup (番茄醬/番茄汁)	Ketchup, tomato paste
5.	Cornstarch (粟米澱粉/粟粉)	Cornstarch

Appendix 2**Food preparation instructions****Terminology**

For consistency, the terms used for food preparation instructions are defined as follows:

Boil	Cook food in boiling distilled water.
Blanch	Boil food in boiling distilled water for 1 minute.
Composite	Blend the three individual homogenised samples of the same TDS food item with equal weights to obtain a composite sample.
Cut	Cut food into a specified shape.
Drain	Remove excessive liquid (or water) with colanders.
Homogenise	Blend foods within the same purchase of the food item, using a blender until a homogeneous mixture is attained.
Mix	Mix the liquid foods to obtain a mixture of consistency so that they are indistinguishable from one another.
Pan-fry	Fry foods in low to medium heat in the frying pan, without adding any cooking oil.
Rinse	Remove any remaining dirt/impurities by washing it out with distilled water lightly.
Slice	Slice food into about 0.5 cm thick (unless otherwise specified).
Soak	Immerse food in distilled water for a specified period of time
Steam	Steam food in a pre-heated steamer for a specified period of time.
Stir-fry	Fry foods in medium heat with stirring and turning over frequently in the frying pan, without adding any cooking oil. Do not overload the pan.
Wash	Wash foods with distilled water in accordance with local practice to remove dirt and impurities.

Food preparation instructions for each TDS food item

All samples were prepared individually according to the food preparation as listed in the table below. Then, the three individual prepared samples of the same TDS food item were composited to obtain a single composite sample.

Cereals and their products:

TDS food item	Food preparation
Rice, white	Wash, add distilled water (rice to water ratio: 1:1.5), steam until cooked and homogenise.
Rice, unpolished	Wash, add distilled water (rice to water ratio: 1:1.5), soak for at least an hour, then steam until cooked and homogenise.
Corn	Remove husks and silk, wash, boil, remove cob and homogenise. For canned item, drain cans and homogenise.
Noodles, Chinese or Japanese style	Cook as per label instruction (or boil until cooked) and homogenise.
Pasta, Western style	Cook as per label instruction (or boil until cooked) and homogenise.
Instant noodles	Cook as per label instruction (discard flavour sachet and oil packet) and homogenise.
Rice noodles	Boil until cooked and homogenise.
Bread, plain	Homogenise.
Bread, raisin	Homogenise.
“Pineapple” bun	Homogenise.
Sausage/ham/luncheon meat bun	Homogenise.
Chinese steamed bread	Steam as per label instruction or steam for 10 minutes (for pre-cooked item only) and homogenise.
Biscuits	Homogenise.
Cakes	Homogenise.
Pastries	Homogenise.
Pastries, Chinese	Homogenise.
Oatmeal	Prepare as per label instructions (if oatmeal to water ratio is not provided, follow the ratio: 40 grams of oatmeal into 250 ml distilled water) and homogenise.
Breakfast cereals	Homogenise.
Deep-fried dough	Homogenise.

Vegetables and their products:

TDS food item	Food preparation
Carrot/ Radish	Peel, remove ends, wash, slice, boil until cooked and homogenise.
Potato	Peel, wash, cut into chunks, boil for about 20 minutes and homogenise.
Potato, fried	Homogenise.
Broccoli	Trim, cut into florets, wash, soak for 20 minutes, rinse, blanch, stir-fry and homogenise.
Cabbage, Chinese	Cut into strips, wash, stir-fry and homogenise.
Cabbage, Chinese flowering	Wash, soak for 20 minutes, rinse, cut into strips, stir-fry and homogenise.
Cabbage, European variety	Cut into eighths, wash, stir-fry and homogenise.
Cabbage, Petiole Chinese	Wash, soak for 20 minutes, rinse, remove stem end where appropriate, stir-fry and homogenise.
Celery	Remove root end and tough strings, wash, cut into strips, blanch, stir-fry and homogenise.
Chinese kale	Wash, soak for 20 minutes, rinse, cut into strips, stir-fry and homogenise.

Chinese spinach	Remove root end, wash, soak for 20 minutes, rinse, cut into strips, stir-fry and homogenise.
Leaf mustard	Wash, soak for 20 minutes, rinse, cut into strips, stir-fry and homogenise.
Lettuce, Chinese	Remove stem end, wash, soak for 20 minutes, rinse, cut into strips, stir-fry and homogenise.
Lettuce, European	Cut into eighths, wash, boil and homogenise.
Mung bean sprout	Wash, drain, stir-fry and homogenise.
Spinach	Remove root end, wash, soak for 20 minutes, rinse, cut into strips, stir-fry and homogenise.
Water spinach	Wash, soak for 20 minutes, rinse, cut into strips, stir-fry and homogenise.
Watercress	Wash, soak for 20 minutes, rinse, cut into strips, stir-fry and homogenise.
Bitter melon	Remove top, stem and seeds, wash, slice, blanch, stir-fry and homogenise.
Cucumber	Remove end, leave skin on, wash, cut into chunks and homogenise.
Hairy gourd	Peel, remove ends, wash, slice, boil and homogenise.
Pumpkin	Peel, remove top, stem, seeds and stringy fibres, wash, slice, boil and homogenise.
Sponge gourd	Remove ends, wash, slice, stir-fry and homogenise.
Wax gourd	Peel, remove seeds and stringy fibres, wash, cut into chunks, boil and homogenise.
Zucchini	Remove ends, leave skin on, wash, slice, stir-fry and homogenise.
Eggplant	Remove stem end, wash, slice, stir-fry and homogenise.
Sweet pepper	Remove top, stem and seeds, wash, slice, stir-fry and homogenise.
Tomato	Remove stem, wash, cut into quarters, stir-fry, keep cooked tomato including juice, and homogenise.
Garlic	Remove papery skin, wash, cut into small pieces, stir-fry and homogenise.
Onion	Remove root end and papery skin, wash, slice, stir-fry and homogenise.
Spring onion	Remove root end, wash, cut into strips, steam and homogenise.
Preserved vegetables	Wash, rinse, cut into strips, soak for 10 minutes, steam and homogenise.
Mushroom, dried shiitake	Wash, soak in water one night in advance and keep in refrigerator, drain, remove stalks, steam for 30 minutes and homogenise.
Mushrooms	Trim bottom / drain cans where appropriate, wash, stir-fry and homogenise.
Ear fungus	Wash, soak in water until softened, discard any hard bits, steam and homogenise.

Legumes, nuts and seeds and their products:

TDS food item	Food preparation
Green string beans, with pod	Remove ends and strings, wash, cut into strips, blanch, stir-fry, and homogenise.
Mung bean vermicelli	Wash, soak for 15 minutes, boil and homogenise.
Beancurd	Steam and homogenise.
Fermented bean products	Wash, steam and homogenise. For fermented bean curd, homogenise.
Peanut	Remove shell (if applicable) and homogenise.
Peanut butter	Homogenise.

Fruits:

TDS food item	Food preparation
Apple	Wash, remove the core, leave skin on, cut into quarters, and homogenise.
Banana	Remove skin and homogenise.
Dragon fruit	Wash, cut into quarters, remove skin and homogenise.
Grapes	Wash, remove stems and seeds, leave skin on and homogenise.
Kiwi fruit	Cut into half, scoop out the flesh and homogenise.
Longan / Lychee	Remove shell and stones, and homogenise.
Mango	Cut mango into half, remove stone, scoop out the flesh and homogenise.
Melons	Remove seeds, stringy fibres and skin, cut into chunks, and homogenise.
Orange	Cut into quarters, remove seeds and skin, and homogenise
Papaya	Remove seeds, stringy fibres and skin, cut into chunks and homogenise.
Peach	Wash, peel, cut into quarters, remove stone, and homogenise. For canned item, drain cans and homogenise.
Pear	Wash, remove core, leave skin on, cut into quarters and homogenise.
Persimmon	Remove skin and stone, and homogenise
Pineapple	Remove inedible parts, cut into chunks and homogenise. For canned item, drain cans and homogenise.
Plum	Wash, leave skin on, cut into quarters, remove stone and homogenise.
Pummelo /Grapefruit	Remove inedible parts and homogenise.
Watermelon	Remove skin and seeds, cut into chunks and homogenise

Meat, poultry and game and their products:

TDS food item	Food preparation
Beef	Wash, slice or cut into chunks (where appropriate), stir-fry (for meat) or boil for 1.5 hour (for flank) and homogenise. For steak, pan-fry and remove visible fat and bones (if any), and homogenise.
Mutton	Wash, slice, remove bones (if any), stir-fry and homogenise.
Pork	Wash, slice and stir-fry (for meat), pan-fry and remove visible fat and bones (for pork chop), or steam and remove bones (for rib), and homogenise
Ham	Slice (if applicable), pan-fry and homogenise.
Luncheon meat	Slice, pan-fry and homogenise.
Barbecued pork	Cut into pieces (if applicable) and homogenise.

Roasted pork	Remove bones, cut into pieces (if applicable) and homogenise.
Pig liver	Wash, slice, boil, drain and homogenise.
Chicken meat	Wash, slice, stir-fry and homogenise. For whole chicken, wash, remove offal (if any), steam, remove inedible parts and homogenise.
Chicken, soy sauce	Remove inedible parts and homogenise.
Roasted duck/goose	Remove inedible parts and homogenise.
Meat sausage	Pan-fry and homogenise

Eggs and their products:

TDS food item	Food preparation
Egg, chicken	Wash, break and beat the eggs, pan-fry and homogenise.
Egg, lime preserved	Remove soil, wash, remove shells and homogenise.
Egg, salted	Remove soil, wash, boil, remove shells and homogenise.

Fish and seafood and their products:

TDS food item	Food preparation
Fish, Big head	Wash, remove scales and viscera (if any), steam, remove inedible parts and homogenise.
Fish, Mandarin fish	Wash, remove scales and viscera (if any), steam, remove inedible parts and homogenise.
Fish, Grass carp	Wash, remove scales and viscera (if any), steam, remove inedible parts and homogenise.
Fish, Golden thread	Wash, remove scales and viscera (if any), pan-fry, remove inedible parts and homogenise.
Fish, Grouper	Wash, remove scales and viscera (if any), steam, remove inedible parts and homogenise.
Fish, Horse head	Wash, remove scales and viscera (if any), steam, remove inedible parts and homogenise.
Fish, Pomfret	Wash, remove scales and viscera (if any), steam, remove inedible parts and homogenise.
Fish, Sole	Wash, pan-fry and homogenise.
Fish, Tuna	Cut into pieces and homogenise. For canned item, drain cans and homogenise.
Fish, Grey mullet	Wash, remove scales and viscera (if any), steam, remove inedible parts and homogenise.
Fish, Salmon	Cut into pieces and homogenise.
Fish, Yellow croaker	Wash, remove scales and viscera (if any), pan-fry, remove inedible parts and homogenise.
Fish, Dace, minced	Pan-fry and homogenise.
Fish ball/fish cake	Wash, slice (for fish cake), boil for about 5 minutes and homogenise.
Shrimp/ Prawn	Wash, steam, remove inedible parts and homogenise. For shelled shrimp, wash, stir-fry and homogenise.
Crab	Wash, steam, remove inedible parts and homogenise.
Oyster	Wash, stir-fry and homogenise.
Scallop	Remove inedible parts, wash, steam and homogenise.
Squid	Remove inedible parts, wash, slice, stir-fry and homogenise.

Dairy products:

TDS food item	Food preparation
Milk, whole	Mix into a homogenous form.
Milk, skim	Mix into a homogenous form.
Cheese	Homogenise.
Yoghurt	Homogenise.
Ice-cream	Allow to thaw and homogenise.

Fats and oils:

TDS food item	Food preparation
Butter	Homogenise.
Oil, vegetable	Mix into a homogenous form.

Beverages, alcoholic:

TDS food item	Food preparation
Beer	Mix into a homogenous form.
Red wine	Mix into a homogenous form.

Beverages, non-alcoholic:

TDS food item	Food preparation
Tea, Chinese	Prepare according to the instructions on the packet, or follow the direction by pouring 150 ml boiling distilled water into 2 grams of tea leaves or 1 tea bag and holding for 5 minutes (stir occasionally)), then remove tea leave, and mix into a homogenous form.
Tea, milk tea	Prepare according to the instructions on packet (for instant mix only), and mix into a homogenous form.
Coffee	Prepare according to the instructions on packet (for instant mix only), and mix into a homogenous form.
Malt drink	Prepare according to the instructions on packet, and mix into a homogenous form.
Soybean drink	Mix into a homogenous form.
Fruit and vegetable juice	Mix into a homogenous form.
Carbonated drink	Mix into a homogenous form.
Tea, chrysanthemum	Mix into a homogenous form.
Water, bottled, distilled	Mix into a homogenous form.
Water, drinking	Boil the tap water.

Mixed dishes:

TDS food item	Food preparation
Siu Mai	Prepare according to instructions on the packet (no sauce added), OR steam for about 10 minutes, and homogenise. For ready-to-eat item, homogenise.
Dumpling, steamed	Prepare according to instructions on the packet (no sauce added), OR steam for about 20 minutes, and homogenise. For ready-to-eat item, homogenise.
Dumpling, pan-fried	Prepare according to the instructions on the packet (no sauce added), OR pan-fry, and homogenise. For ready-to-eat item, homogenise.
Dumpling, including	Discard the flavour sachet and oil packet (if any) and cook according

wonton	to instructions on the packet with water, OR boil for 10 minutes, and homogenise. For ready-to-eat item, drain the soup (if any) and homogenise.
Steamed barbecued pork bun	Prepare according to instructions on the packet, OR steam for 15 minutes, and homogenise. For ready-to-eat item, homogenise.
Turnip cake	Homogenise.
Steamed minced beef ball	Prepare according to instructions on the packet, OR steam for 15 minutes, and homogenise. For ready-to-eat item, homogenise.
Glutinous rice dumpling	For pre-cooked item, prepare according to instructions on the packet (no sauce added), OR boil (or steam for glutinous rice wrapped in lotus leaf) for 15 minutes and then remove the wrap and bones, if any, and homogenise. For ready-to-eat item, remove bones if any and homogenise.
Steamed rice-rolls with filling	For pre-cooked item, prepare according to instructions on the packet (no sauce added), OR steam for 10 minutes, and homogenise. For ready-to-eat item, homogenise.
Steamed rice-rolls, plain	For pre-cooked item, prepare according to instructions on the packet (no sauce added), OR steam for 10 minutes, and homogenise. For ready-to-eat item, homogenise.
Chinese soup	Remove any solid in soup and mix into homogenous form.
Hamburger	Homogenise

Snack foods:

TDS food item	Food preparation
Potato chips	Homogenise.

Sugars and confectionery:

TDS food item	Food preparation
Chocolate	Homogenise.
Granulated white sugar	Homogenise.

Condiments, sauces and herbs:

TDS food item	Food preparation
Table salt	Homogenise.
Soya sauce	Homogenise.
Oyster sauce	Homogenise.
Tomato paste/ ketchup	Homogenise.
Cornstarch	Homogenise.

Appendix 3**List of substances covered in the 1st HKTDS* (revised October 2012)****Persistent Organic Pollutants (POPs) (16)**

1. Aldrin
2. Chlordane
3. DDT
4. Dieldrin
5. Dioxins
6. Endrin
7. Furans (refer to dibenzofurans)
8. Heptachlor (including heptachlor epoxide)
9. Hexachlorobenzene (HCB)
10. Mirex
11. Polychlorinated biphenyls (PCBs), dioxin-like
12. Toxaphene
13. Chlordecone (new POPs)
14. Pentachlorobenzene (new POPs)
15. Endosulfan (α , β and sulfate) (new POPs)
16. Hexachlorocyclohexane (α , β , δ and γ) (new POPs)

Pesticide Residues (excluding POPs) – Organophosphorus (48)

1. Acephate
2. Azinphos, methyl-
3. Bensulide
4. Cadusafos
5. Chlorpyrifos
6. Chlorpyrifos, methyl-
7. Coumaphos
8. Diazinon
9. Dichlorvos
10. Dicrotophos
11. Dimethoate
12. Disulfoton
13. Edifenphos
14. Ethion
15. Ethoprophos
16. Fenamiphos
17. Fenitrothion
18. Fenthion
19. Fosthiazate
20. Isocarbophos
21. Isofenphos, methyl-
22. Malathion

23. Methamidophos
24. Methidathion
25. Mevinphos
26. Monocrotophos
27. Naled
28. Omethoate
29. Oxydemeton, methyl-
30. Parathion
31. Parathion, methyl-
32. Phenthoate
33. Phorate
34. Phosalone
35. Phosmet
36. Phosphamidon
37. Phoxim
38. Pirimiphos, methyl-
39. Profenofos
40. Prothiophos
41. Quinalphos
42. Terbufos
43. Tetrachlorvinphos
44. Tolclofos, methyl-
45. Triazophos
46. Tribufos
47. Trichlorfon
48. Vamidothion

Pesticide Residues (excluding POPs) – Organochlorine (1)

1. Dicofol (sum of 2,4'-dicofol and 4,4'-dichlorobenzophenone)

Pesticide Residues (excluding POPs) – Pyrethrins and pyrethroids (15)

1. Bifenthrin
2. Cyfluthrin
3. Cyhalothrin
4. Cypermethrin
5. Deltamethrin
6. Etofenprox
7. Fenpropathrin
8. Fenvalerate
9. Flucythrinate
10. Flumethrin

* Additional substances may be added when undergone the laboratory method development of individual groups of substances.

11. Fluvalinate
12. Permethrin
13. Pyrethrins
14. Resmethrin
15. Tefluthrin

Pesticide Residues (excluding POPs) – Carbamates (20)

1. Aldicarb
2. Benfuracarb
3. Butylate
4. Carbaryl
5. Carbofuran
6. Carbosulfan
7. Cycloate
8. S-ethyl dipropyl thiocarbamate (EPTC)
9. Fenobucarb (BPMC)
10. Formetanate hydrochloride
11. Isoprocarb
12. Methiocarb
13. Methomyl
14. Molinate
15. Oxamyl
16. Phenmedipham
17. Pirimicarb
18. Propamocarb
19. Thiobencarb
20. Triallate

Pesticide Residues (excluding POPs) – Dithiocarbamate metabolites (2)

1. Ethylene thiourea (ETU)
2. Propylene thiourea (PTU)

Metallic Contaminants (9)

1. Aluminium
2. Antimony
3. Arsenic, inorganic
4. Cadmium
5. Lead
6. Methyl mercury
7. Nickel
8. Tin
9. Vanadium

Processing Contaminant (1)

1. Acrylamide

Mycotoxins (9)

1. Acetyldeoxynivalenols
2. Aflatoxins (Sum of aflatoxins B1, B2, G1 and G2)
3. Deoxynivalenol (DON)
4. Diacetoxyscirpenol
5. Fumonisin (Sum of fumonisins B1, B2 and B3)
6. Ochratoxin A
7. Ochratoxin B
8. T-2 and HT-2 toxins
9. Zearalenones (Sum of zearalenone, alpha and beta zearalenol)

Other Contaminant (1)

1. Polybrominated diphenyl ethers (PBDEs)

Nutrients – Fatty acids (4)

1. Monounsaturated fatty acid
2. Polyunsaturated fatty acid
3. Saturated fatty acid
4. Trans fatty acid

Nutrients – Elements (13)

1. Boron
2. Calcium
3. Cobalt
4. Copper
5. Iron
6. Magnesium
7. Manganese
8. Molybdenum
9. Phosphorus
10. Potassium
11. Selenium
12. Sodium
13. Zinc

Nutrients – Others (7)

1. Available carbohydrates
2. Cholesterol
3. Dietary fibre (total)
4. Energy
5. Protein
6. Sugars
7. Total fat

Appendix 4**Food Mapping****Cereals and their products:**

TDS food item analysed	Food Consumption Survey food represented
Rice, white	White rice, glutinous rice, congee
Rice, unpolished	Unpolished rice and congee
Corn	Corns, baby corn
Noodles, Chinese or Japanese style	Chinese or Japanese noodles
Pasta, Western style	Western style pasta
Instant noodles	Instant noodles, instant rice noodles and instant flat noodles
Rice noodles	Rice noodles
Bread, plain	Plain bread, grain breads, other bread without inclusion
Bread, raisin	Raisin bread, other breads with inclusion (sweet)
"Pineapple" bun	"Pineapple" bun (all kinds)
Sausage/ham/luncheon meat bun	Bread with meat / seafood based filling; puff/pie with meat / seafood based filling; other bread with inclusion (savoury)
Chinese steamed bread	Plain Chinese steamed bun / roll
Biscuits	Biscuits, crackers, cookies
Cakes	Cake, muffin, waffle, pancake
Pastries	Puff, pie, tart, doughnut
Pastries, Chinese	Chinese pastry, traditional mooncake
Oatmeal	Oatmeal
Breakfast cereals	Breakfast cereal, corn flakes, wheat bran breakfast cereal
Deep-fried dough	Fried fritter, crispy dumpling, sesame ball, deep fried dumpling

Vegetables and their products:

TDS food item analysed	Food Consumption Survey food represented
Carrot/ Radish	Carrot, other root vegetables
Potato	Potato, other tuber vegetables
Potato, fried	Fried potatoes
Broccoli	Broccoli, cauliflower
Cabbage, Chinese	Chinese cabbage
Cabbage, Chinese flowering	Chinese flowering cabbage, other brassica leafy vegetables, vegetables not specified
Cabbage, European variety	European variety cabbage
Cabbage, Petiole Chinese	Petiole Chinese cabbage, Shanghai cabbage
Celery	Celery, other stalk and stem vegetables
Chinese kale	Chinese kale
Chinese spinach	Chinese spinach
Leaf mustard	Leaf mustard
Lettuce, Chinese	Chinese lettuce, Indian lettuce
Lettuce, European	European lettuce, other leafy vegetables
Mung bean sprout	Mung bean sprout, other sprouts
Spinach	Spinach
Water spinach	Water spinach

Watercress	Watercress
Bitter melon	Bitter melon
Cucumber	Cucumber, old yellow cucumber
Hairy gourd	Hairy gourd, other cucurbits
Pumpkin	Pumpkin
Sponge gourd	Sponge gourd, water gourd
Wax gourd	Wax gourd
Zucchini	Zucchini
Eggplant	Eggplant
Sweet pepper	Sweet peppers, other peppers
Tomato	Tomato, other fruiting vegetables
Garlic	Garlic
Onion	Onion, other bulb vegetables
Spring onion	Spring onion, other green bulb vegetables
Preserved vegetables	Preserved vegetables
Mushroom, dried shiitake	Dried shiitake mushroom, other dried mushrooms
Mushrooms	Fresh mushrooms
Ear fungus	Ear fungus, other edible fungus

Legumes, nuts and seeds and their products:

TDS food item analysed	Food Consumption Survey food represented
Green string beans, with pod	Green string beans with pod, other legume vegetables and pulses
Mung bean vermicelli	Mung bean vermicelli, mung bean starch sheet
Beancurd	Beancurd, soya bean, other soya bean products
Fermented bean products	Fermented bean products / paste / sauce
Peanut	Peanut, other tree nuts and oilseed
Peanut butter	Peanut butter, other tree nuts and oilseed paste

Fruits:

TDS food item analysed	Food Consumption Survey food represented
Apple	Apple, other pome fruits
Banana	Banana, other assorted tropical and sub-tropical fruits (inedible peel)
Dragon fruit	Dragon fruit
Grapes	Grapes, all berries
Kiwi fruit	Kiwi fruit
Longan / Lychee	Longan, lychee
Mango	Mango
Melons	Cantaloupe, smooth skin melon
Orange	Orange, other citrus fruits, fruits not specified
Papaya	Papaya
Peach	Peach, other stone fruits
Pear	Pears
Persimmon	Persimmon, other assorted tropical and sub-tropical fruits (edible peel)
Pineapple	Pineapple
Plum	Plum, prune
Pummelo /Grapefruit	Pummelo, grapefruit
Watermelon	Watermelon

Meat, poultry and game and their products:

TDS food item analysed	Food Consumption Survey food represented
Beef	Beef and veal meat
Mutton	Lamb and mutton
Pork	Pork meat, meat and game not specified
Ham	Ham, Chinese ham, other cured meat
Luncheon meat	Luncheon meat
Barbecued pork	Barbecued pork, barbecued pork ribs
Roasted pork	Roasted pork, roasted suckling pig
Pig liver	Pig liver, other animal offals
Chicken meat	Chicken meat, other poultry meat
Chicken, soy sauce	Soy sauce chicken, “Lo Shui” (Chinese marinade) duck and goose
Roasted duck/goose	Roasted duck, goose, chicken and pigeon
Meat sausage	Meat and poultry sausage and ball

Eggs and their products:

TDS food item analysed	Food Consumption Survey food represented
Egg, chicken	Chicken egg, other eggs
Egg, lime preserved	Lime preserved egg
Egg, salted	Salted egg

Fish and seafood and their products:

TDS food item analysed	Food Consumption Survey food represented
Fish, Big head	Big head fish
Fish, Mandarin fish	Mandarin fish
Fish, Grass carp	Grass carp, other carps, other freshwater fish
Fish, Golden thread	Golden thread, cod and cod-like fishes, Mackerel, Jack Mackerel and Mackerel-like fishes, other marine fish, fish offals
Fish, Grouper	Groupers
Fish, Horse head	Horse head fish
Fish, Pomfret	Pomfret
Fish, Sole	Sole, other flat-fishes
Fish, Tuna	Tuna and bonito, other predatory fish (e.g. shark and swordfish)
Fish, Grey mullet	Grey mullet
Fish, Salmon	Salmon, other diadromous fish
Fish, Yellow croaker	Yellow croaker, croaker, white croaker
Fish, Dace, minced	Minced dace, dace
Fish ball/fish cake	Fish ball, fish cake
Shrimp/ Prawn	Shrimp, prawn, other crustaceans
Crab	Crabs
Oyster	Oyster
Scallop	Scallop, other mollusks (bivalve or univalve)
Squid	Squid, other cephalopods

Dairy products:

TDS food item analysed	Food Consumption Survey food represented
Milk, whole	Whole milk, including flavoured milk and fortified milk
Milk, skim	Skim milk, including flavoured milk and fortified milk
Cheese	Processed cheeses
Yoghurt	Yoghurt, fermented beverage (dairy base)
Ice-cream	Ice cream

Fats and oils:

TDS food item analysed	Food Consumption Survey food represented
Butter	Butter, animal fats and oils
Oil, vegetable	Vegetable oil, fats and oils not specified

Beverages, alcoholic:

TDS food item analysed	Food Consumption Survey food represented
Beer	Beer, ale
Red wine	Red wine, other alcoholic beverages

Beverages, non-alcoholic:

TDS food item analysed	Food Consumption Survey food represented
Tea, Chinese	Chinese tea, flavoured tea, tea not specified, non-alcoholic beverages not specified
Tea, milk tea	Milk tea
Coffee	Coffee
Malt drink	Malt drink, chocolate drink
Soybean drink	Soybean drink
Fruit and vegetable juice	Fruit and vegetable juice or juice drink
Carbonated drink	Carbonated drink, icy drink, sports drink
Tea, chrysanthemum	Chrysanthemum tea, other herbal tea, honey drink
Water, bottled, distilled	Bottled distilled water, bottled mineral/spring water, bottled drinking water
Water, drinking	Drinking water

Mixed dishes:

TDS food item analysed	Food Consumption Survey food represented
Siu Mai	All kinds of "siu mai" dim sum, except beef "siu mai"
Dumpling, steamed	Steamed dumpling, other steamed dim sum with meat and seafood
Dumpling, pan-fried	Pan-fried dumpling, other fried dim sum with meat
Dumpling, including wonton	Dumpling in soup, wonton, other dim sum not specified
Steamed barbecued pork bun	Steamed barbecued pork bun, other steamed bun with filling
Turnip cake	Turnip cake, other Chinese puddings
Steamed minced beef ball	Steamed minced beef ball, beef "siu mai"
Glutinous rice dumpling	All kinds of glutinous rice dumpling
Steamed rice-rolls with	All kinds of steamed rice-rolls with filling

filling	
Steamed rice-rolls, plain	Plain steamed rice-rolls
Chinese soup	Chinese-style soups, broth / bouillon
Hamburger	Hamburger, other burger

Snack foods:

TDS food item analysed	Food Consumption Survey food represented
Potato chips	Potato chips, other snack foods

Sugars and confectionery:

TDS food item analysed	Food Consumption Survey food represented
Chocolate	All kinds of chocolate
Granulated white sugar	Granulated white sugar, other kinds of sugars

Condiments, sauces and herbs:

TDS food item analysed	Food Consumption Survey food represented
Table salt	Table salt, other salts, seasoning powders
Soya sauce	Soya sauce, other sauces
Oyster sauce	Oyster sauce, other alike products
Tomato paste/ ketchup	Tomato paste, ketchup, spaghetti sauce
Cornstarch	Corn starch, starch flour not specified