

Food Safety Advice on Producing Non-Hot Served Sweet Food

Introduction

Sweet foods are for sweet tooth. In Hong Kong, a melting pot of Eastern and Western cultures, desserts (or so called sweet foods) of various kinds are popular.

Common production modes and food safety problem

Although some sweet foods are generally hot served, a great variety of them are considered non-hot served, which means they are probably prepared in advance and do not require reheating before consumption. Prolonged storage of sweet foods under room temperature favours the growth of microorganisms which increases food safety risk.

Besides the issue of temperature control, some non-hot served sweet foods involve post-cooking food handling with cream and fresh fruits that are highly perishable ingredients. During food handling, bacteria such as *Staphylococcus aureus* found on hands may cross-contaminate the food, which also increases food safety risk.

In this set of guidelines, the focus is on those sweet foods which are not generally hot served and associated with one or more of the following risk factors:

- (a) Highly perishable ingredients;
- (b) Post-cooking handling involves manual handling and mixing with other ingredients; and
- (c) Improper holding temperature before consumption.

Below is a discussion about the general principles, followed by practical illustrations with three non-hot served sweet foods:

1. Dessert with fruit
2. Dessert with cream, e.g. pancake or cream cake
3. Chilled Chinese/Thai puddings

Potential hazards and risks

Examples of potential hazards and their control measures in sweet food production.

Source of hazards	Related food/ steps	Nature of hazards	Control Measures
Ingredients	Fruits	Bacteria, mold	<ul style="list-style-type: none"> ● Buy from licensed/approved suppliers which are reliable ● Check suppliers' quality specification
	Cream	Bacterial growth	
	Bean, flour	Bacteria, mold	
Food processing steps	Storage	Bacterial growth	<ul style="list-style-type: none"> ● Store ingredients at appropriate temperature and well covered.
	Preparation	Bacterial growth	<ul style="list-style-type: none"> ● Follow strict personal hygiene ● Use separate equipment for handling cooked or ready to eat food and raw food ● Sanitize utensils/equipments after each use ● Discard fruits that are damaged or bruised ● Cover and refrigerate cut fruits/juice immediately after peeling or cutting.
	Cooking	Survival of bacteria	<ul style="list-style-type: none"> ● Cook thoroughly
Post cooking handling	Storage	Bacterial growth	<ul style="list-style-type: none"> ● Avoid prolonged storage at room temperature
	Mixing/ cutting/filling	Bacterial cross contamination	<ul style="list-style-type: none"> ● Establish separate zones and use separate utensils to handle raw and cooked or ready to eat food ● Food handlers maintain good personal hygiene
	Transportation	Foreign bodies or chemical contamination inside delivery	<ul style="list-style-type: none"> ● Inspect delivery vehicle

		vehicle	
		Bacterial growth	● Store food in insulated containers at 4 °C or below

General principles to safeguard food safety

Since Hazard Analysis and Critical Control Point (HACCP) system can effectively enhance food safety and prevent foodborne diseases, operators should implement appropriate measures to minimize the risks associated with the hazards. Application of HACCP principles during routine operations can reduce the risks.

As a pre-requisite, good personal and environmental hygiene during all preparation and handling processes are essential to prevent outbreak of food incidents. To avoid cross contamination, food preparation areas, facilities, equipment and all food contact surfaces should always be sanitized and kept clean. Food handlers should maintain a high standard of personal hygiene in order to avoid transferring food poisoning micro-organism to food. Furthermore, other basic works, such as pest control, waste disposal and staff training should also be in place.

Caterers may refer to the previously published trade guidelines on food safety measures for preparing sweet food by practicing the 5 Keys to Food Safety in the daily operation.

(http://www.cfs.gov.hk/english/food_leg/files/Guidelines_on_Safe_Production_of_Sweet_Food_e.pdf

http://www.cfs.gov.hk/tc_chi/food_leg/files/Guidelines_on_Safe_Production_of_Sweet_Food_c.pdf).

Supplementary notes on transportation

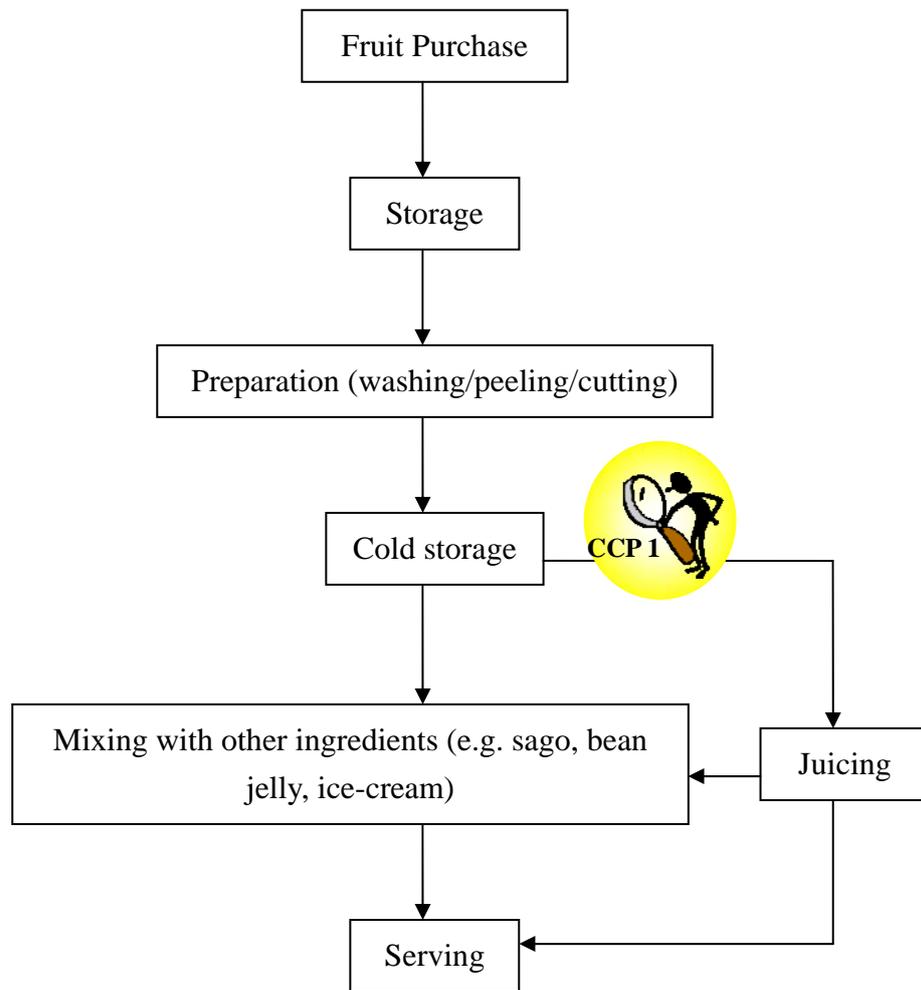
Due to the evolution of chained food outlets and limited space in the catering establishment, some steps in sweet food production are carried out in food factory and subsequently delivered to the restaurants or outlets for retail sale. Temperature control during transportation is an important food safety issue. Hygienic condition inside the delivery vehicles and maintenance of proper holding temperature are crucial to

ensure safe sweet food production. Contamination may occur if sweet food is carried in dirty or inappropriate containers or vehicles. Further risk is introduced if they are transported under ambient temperature that encourages growth of pathogenic bacteria. The following supplementary guidelines are developed for the steps of transportation:

- During transportation, sweet food should be carried in enclosed vehicles to protect it against contamination by dust/dirt/fumes from vehicles or traffic.
- Internal surfaces of the transporting vehicles should be smooth and impervious, and be frequently cleaned and disinfected. It is desirable to deliver cold food, such as cream cakes, by vehicles with refrigeration device.
- Inspect the hygienic condition of the vehicle before each delivery.
- Transporting vehicle should not be used for purposes other than delivering sweet food, especially transportation of raw food or chemicals, and maintain delivery log for checking purpose.
- Conduct temperature checks before delivery and on arrival to ensure cold served sweet food is kept at 4 °C or below .
- Keep food such as cream cake in hygienic and covered containers or completely wrap non-packaged food.
- Clean and disinfect (where appropriate) containers regularly.

Specific example 1. Dessert with fruit

The following diagram is a generic example showing the CCPs  for production of dessert with fruit.



Cut fruit should be stored in containers and covered by lids or cling wrap. Cut fruit should be stored inside refrigerator maintained at 4°C or below to prevent bacterial growth.

Important points to note

(i) Fruit purchase

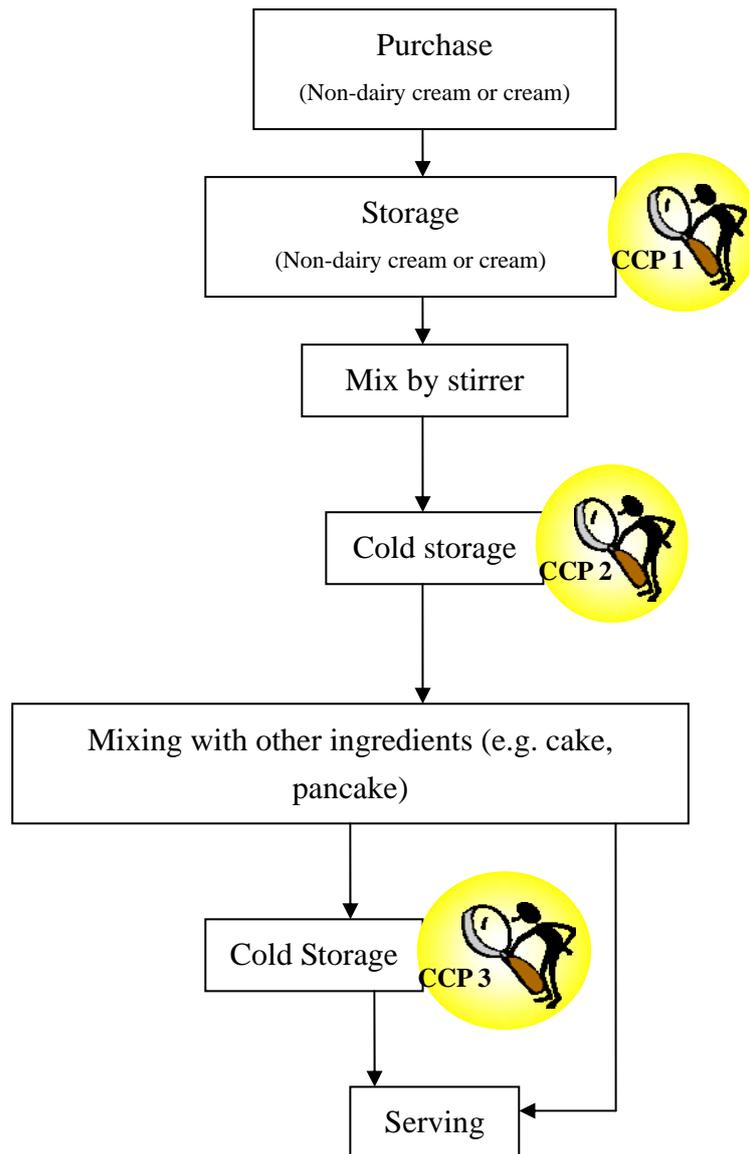
Fruits are often prepared and added to the dessert without undergoing any cooking process. Harmful bacteria such as *Salmonella* and *Listeria* species, virus such as Norovirus, toxins such as patulin may be present in fresh fruits. Caterers should ensure that all food received are fresh and safe.

(ii) Preparation of fruit

On the other hand, preparation steps including washing, peeling and cutting of fruits are vital steps to remove dirt and reduce potential surface contamination, such as bacteria or virus on the skin or rind of fruits before combining with other ingredients. Whole melons are advised to be washed and scrubbed with a clean produce brush under running water before cutting. Cut fruits should be used as soon as possible. Knives for cutting fruit should be stored in knife sterilizer with bactericidal agent inside to maintain the cleanliness of the knives.

Specific example 2. Dessert with cream, e.g. pancake or cream cake

The following diagram is a generic example showing the CCPs  for production of dessert with cream.



Fresh cream or non-dairy cream is often added to dessert to make it more palatable. Fresh cream is a highly perishable ingredient and requires storage in refrigerated condition while non-dairy cream may be stored in cool or dry place. Hence, cream ingredients should be stored according to the package instruction.



The whipped cream should be stored inside the refrigerator maintained at 4°C or below and handled with extra caution.



The prepared dessert should be stored inside the refrigerator maintained at 4°C or below and handled with extra caution.

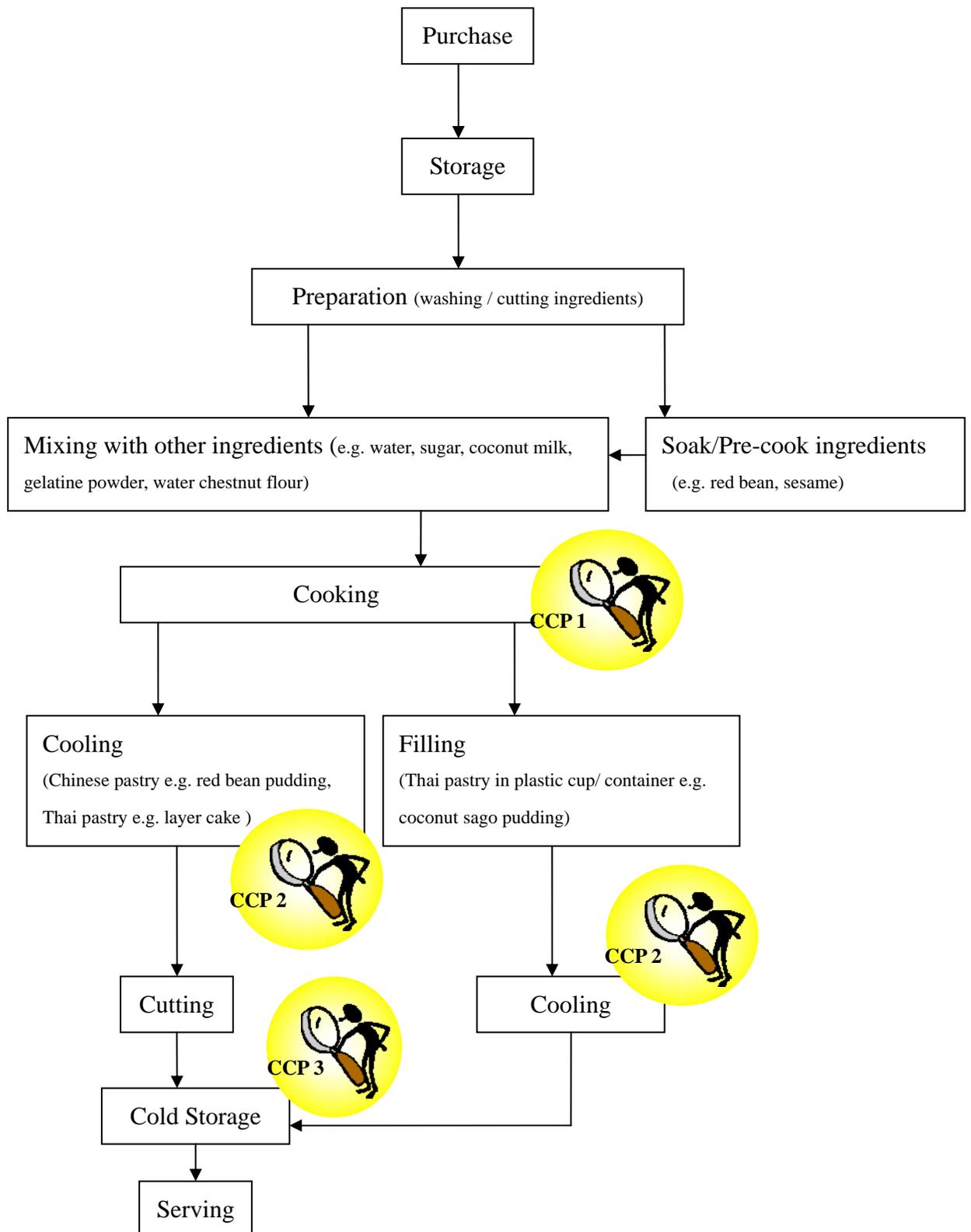
Important point to note

Mixing of cream

During cream mixing, separate mixer should be used for preparing cream and dough as making of dough involves raw eggs which may have the risks of *Salmonella* contamination. Moreover, the mixer should be properly cleansed and sterilized after each use. Operators should estimate the demand carefully to avoid over-production of cream and should not refrigerate residual cream and use again. If feasible, the cream may be whipped in the cool area of the food room immediately before use.

Specific example 3. Chilled Chinese/Thai puddings

The following diagram is a generic example showing the CCPs  for production of chilled Chinese/Thai pudding.





All ingredients should be cooked thoroughly to kill the pathogenic bacteria.



Chinese/Thai puddings are often produced well in advance and involved cooling process. If beans are used as ingredients, some caterers choose to boil the beans several hours ahead of the time of preparation. The beans, together with the mix, if cooled improperly in a prolonged period of time, allows the spores of bacteria e.g. *Clostridium perfringens* to multiply and germinate to a level that may cause food poisoning. To overcome the problem, caterers should avoid prolonged cooling of food at room temperature. Cooling should be conducted rapidly after cooking inside food room where environmental hygiene is better controlled.



The prepared dessert should be stored inside the refrigerator maintained at 4°C or below and handled with extra caution.