CODEX ALIMENTARIUS
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CODE OF PRACTICE ON FOOD ALLERGEN MANAGEMENT FOR FOOD BUSINESS OPERATORS

CXC 80-2020

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INTRODUCTION

Food allergies, an immune-mediated food hypersensitivity, are an increasing food safety issue globally and have emerged as a major public and personal health burden. While food allergies may affect a relatively small proportion of the population, an allergic reaction can be severe or potentially fatal. Furthermore, it is increasingly apparent that people with food allergies experience a very significant reduction in quality of life, some of which could be mitigated by a harmonised approach to the management of allergens in the food chain.

Allergens are an ongoing food safety concern for consumers suffering from food allergies, those who have people with food allergies in their care, food business operators (FBOs), and competent authorities.

With the increasing health burden posed by food allergens, comes the expectation that FBOs take steps to accurately declare the presence of allergenic ingredients, minimize the risk from, and, where possible, prevent unintended allergen presence and that Competent Authorities provide guidance and oversight, where necessary, to FBOs on food allergen complaint investigations. FBOs including producers, processors, wholesalers, distributors, importers, exporters, retailers, transporters, and food service operators all have a role in managing allergens.

In a global market, it is crucial that there is harmonized understanding of this issue and of the measures required to address it. Allergen management practices should be part of good hygiene practices (GHPs), and, where appropriate, HACCP systems, in manufacturing, retail and food service.

Allergens need to be managed throughout the supply chain and production process. Treatments lethal for pathogenic microorganisms, such as heating, high pressure processing, etc. generally do not destroy allergenic proteins. Processes that degrade proteins, such as enzymatic or acid hydrolysis, should not be relied upon to eliminate or completely destroy allergenic proteins.

Hazard characterisation

The allergenic nature of some foods should be identified as a food safety hazard for susceptible individuals. Food allergies are caused by an adverse immune reaction (hypersensitivity) to certain food proteins. Allergies to food can be classified by their immune mechanism:

- immunoglobulin E (IgE)-mediated (immediate hypersensitivity),
- non-IgE mediated (cell-mediated, or delayed hypersensitivity), and
- mixed IgE and non-IgE mediated.

IgE-mediated symptoms typically develop within minutes to 1-2 hours of ingesting the food. Non–IgE-mediated and mixed IgE- and non–IgE-mediated food allergies present with their symptoms several hours after the ingestion of the food. Symptoms of IgE-mediated food allergy may include itching around the mouth, hives, swelling of lips and eyes, difficulties in breathing, drop in blood pressure, diarrhoea and, in its most severe form, anaphylaxis; and may result in death.

While many different foods can cause allergic reactions in susceptible individuals, the majority of food allergies on a global basis are caused by a variety of proteins in eight foods/ food groups (and derived products). These are[1]

- cereals containing gluten (i.e. wheat, rye, barley, oats[2], spelt or their hybridized strains)
- crustaceans;
- eggs;
- fish;
- milk;
- peanuts;
- soybeans; and
- tree nuts

[1] The listed foods, with one exception (i.e. deletion of sulphites), are referred to in the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985) as the foods and ingredients known to cause hypersensitivity and that must always be declared .

[2] While oats do not contain gluten, they are commonly produced in the same location as gluten-containing cereals such as wheat, resulting in allergen cross-contact.

The most common allergic reactions to tree nuts involve almonds, Brazil nuts, cashews, hazelnuts, macadamias, pecans, pistachios and walnuts. In addition, cereal grains such as wheat, barley and rye contain gluten, which can cause adverse reactions in persons with Coeliac disease[3], as well as those with specific allergies to those cereals.

While the allergens listed above are the most common, other food allergens such as sesame seeds, buckwheat, celery, mustard, molluscs and lupin are recognised as important in many countries. The list of recognised food allergens varies among countries and there is the potential for additional major allergens to be identified in the future. The controls outlined in this Code of Practice (Code) would be similar for any other allergens, and FBOs should apply these as appropriate to their own business requirements and applicable legislation. This includes being aware of the food allergens recognised as important in countries they are exporting their product to, managing those allergens and ensuring the necessary allergen labels are applied.

Poor allergen management can result in the presence of varying levels of undeclared and/or unintended allergens in food, which may pose a risk if consumed by an individual with an allergy to the food. The doses that provoke reactions vary among individuals and are dependent in part on the type of allergen. The risk of allergic reactions within a larger proportion of the population suffering from food allergies increases with increasing concentration of undeclared allergen.

Allergen cross-contact can result from a number of factors in processing, preparing and handling foods, some of which pose a greater potential for allergen cross-contact than others. The control measures implemented to prevent or minimise the likelihood of allergen cross-contact should be based on risk assessment conducted by food business operators.

It is important that FBOs are able to identify the allergenic nature of the foods, including ingredients, and processing aids they handle and take steps to manage any potential presence of undeclared allergens.

Factors contributing to exposure

A variety of situations may result in the exposure of individuals with a food allergy to undeclared allergens. These include (but are not limited to) the following:

For harvesting, handling, storage and transportation:

- inadequate or ineffective cleaning of containers, including reusable bags, and transport vehicles;
- inadvertent inclusion of foreign particulates (e.g. grains, nuts or seeds);
- inadequate physical separation or storage of commodities with different allergen profiles; and
- inadequate or a lack of employee training and awareness on managing food allergens including lack of understanding of the serious nature of food allergies.

For packaged food manufacturing facilities:

- labelling errors (e.g. mistakes during label development, label misprints, outdated labels, lost labels, wrong label applied to package, incorrectly translated labels or omitting the declaration of an allergen, product in the wrong package);
- unintentional presence of an allergen due to in-process or post-process allergen cross-contact;
- inappropriate design of the establishment in terms of separation of areas, location of equipment, traffic patterns, and the ventilation system, among others;
- errors in handling of rework;
- production sequences (scheduling) that result in the unintentional presence of an allergen from a product produced earlier;
- inadequate or ineffective equipment cleaning/sanitation procedures at product changeover;
- lack of change management for changes in formulation, ingredient supply and documentation processes;
- improper use or handling of an allergen-containing ingredient;

[3] Coeliac disease is a serious lifelong illness where the body's immune system attacks its own tissues when gluten is consumed. This causes damage to the lining of the gut and results in the inability of the body to properly absorb nutrients from food.

- undeclared allergen in a supplier ingredient; and
- inadequate or lack of employee training/education on managing food allergens.

For retail and food service establishments:

- failure of the establishment to receive accurate information from supply chain or lack of allergen information with ingredients or foods received;
- failure of the supplier to provide timely notification of ingredient changes;
- labelling errors for allergenic foods;
- lack of adequate storage or preparation areas to prevent or minimise the potential for allergen cross-contact;
- inappropriate flow or separation of operations or improper equipment lay-out or utensils;
- absence of, or inadequate, food preparation and service procedures to avoid allergen cross-contact;
- inadequate or lack of employee training/education on managing food allergens, including lack of understanding of the serious nature of food allergies;
- inability of FBOs to clearly communicate allergen information to customers;
- food delivery websites which fail to communicate allergen presence in food items to the consumer, as well failure of a delivery service to communicate a consumer's dietary requirements, with respect to allergens, to the FBO preparing the food; and
- individuals with a food allergy not making their allergies known to food service personnel.

Allergen cross-contact can occur at many points in the food chain. Potential points where allergen cross-contact can occur are outlined in relevant sections within this Code.

FBO Responsibilities

FBOs are encouraged to have documented and detailed allergen management policies and procedures specific to the food business. Implementing allergen management policies and procedures, and compliance with these:

- allows a business to demonstrate it is taking all necessary steps to eliminate or reduce the likelihood of an allergen being unintentionally present in a food;
- increases accuracy of allergenic ingredient declarations;
- provides an opportunity for businesses to demonstrate adequate skills and knowledge in allergen management; and
- reduces the risk to the consumer with a food allergy from the presence of an unintended allergen.

SECTION I - OBJECTIVES

This Code provides guidance to FBOs, including primary producers, to develop policies and procedures to identify allergens in all areas of food production, preparation and service, and then implement allergen management practices, including controls to:

- prevent or minimise the potential for allergen cross-contact that is of risk to the consumer with a food allergy;
- prevent or minimize the potential for undeclared allergens being present in a food due to errors arising in the supply chain;
- ensure the correct allergen label is applied to prepackaged foods; and
- ensure that accurate information can be provided to consumers at point of sale when the food is not prepackaged.

The management tools and guidance in this Code are a proactive approach for effectively managing allergens in food production, preparation and service and reducing risk for consumers, rather than a reactive response once a food safety hazard has been detected in a food.

Food allergen management also involves allergen labelling. While this Code addresses controls to ensure that the correct label is applied during manufacturing of a product or when labelled at retail for the customer, labelling requirements for food products are addressed by the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985) and the *Standard for Foods for Special Dietary Use for Persons Intolerant to Gluten* (CXS 118-1979).

SECTION II – SCOPE, USE AND DEFINITIONS

2.1 Scope

This Code covers allergen management throughout the supply chain including at primary production, during manufacturing, and at retail and food service endpoints. It complements GHP in manufacturing and food preparation practices in food service.

This Code covers IgE-mediated, non IgE-mediated food allergies and other hypersensitivities (e.g. Coeliac disease) that can be triggered by small amounts of the offending food allergen (thus requiring attention to GHPs in addition to labelling). There are eight foods/food groups (and derived products) that cause the majority of food allergies on a global basis, these are cereals containing gluten; crustaceans; eggs; fish; milk; peanuts; soybeans; and tree nuts. However, since the complete list of recognised food allergens varies among countries, it is important to consider which allergens are applicable when exporting food.

This Code does not cover hypersensitivities with a non-immunological aetiology such as lactose intolerance and sulphite sensitivity. Food intolerance adverse reactions usually result from a non-immune mediated reaction to food, such as a lack of an enzyme to process foods effectively (e.g. the absence or deficit of lactase in those with lactose intolerance). While intolerances are not explicitly mentioned in the following text, some of the controls described here could be applied to protect those with food intolerances.

2.2 Use

This Code follows the format of the *General Principles of Food Hygiene* (CXC 1-1969) and should be used in conjunction with it, as well as with other applicable codes and standards such as the *General Standard for Labelling of Prepackaged Foods* (CXS 1-1985) and *Code of Hygienic Practice for the Transport of Food in Bulk and Semi-packed Food* (CXC 47-2001).

The provisions in this document should be applied as appropriate for the food business (e.g. manufacturing, retail, food service), with consideration of the diversity of ingredients, processes, and control measures of the products and various degrees of public health risks associated with allergenic ingredients/foods.

The document has been structured to outline the principles of food allergen management which apply broadly to food business operators, as well as identify those which should be specifically applied to retail and food service sectors.

2.3 Definitions

Refer to definitions in the *General Principles of Food Hygiene* (CXC 1-1969) and other applicable Codes. In addition, for the purpose of this Code, the following expressions have the meaning stated:

Allergen means an otherwise harmless substance capable of triggering a response that starts in the immune system and results in an allergic reaction in certain individuals. In the case of foods, it is a protein which is found in food capable of triggering a response in individuals sensitised to it.

Allergen cross-contact occurs when an allergenic food, or ingredient, is unintentionally incorporated into another food that is not intended to contain that allergenic food.

Allergen profile means the food allergens present via intentional addition as well as those inadvertently present (or the absence of any allergens) in a food.

Food service means a food business or institution that produces, prepares and serves food for direct consumption.

Retail means a food business primarily involved in selling prepackaged or non-prepackaged food directly to consumers for off-site or future consumption.

Rework means clean, unadulterated food that has been removed from processing at any point up to and including final packaging for reasons other than insanitary conditions or that has been successfully reconditioned by reprocessing and that is suitable for use as food or a food component.

Visibly clean means having no visible food, debris and other residues.

SECTION III – PRIMARY PRODUCTION

PRINCIPLE:
Where the introduction of an allergen may adversely affect the allergen profile of food at later stages of the food chain, primary production should be managed in a way that reduces the likelihood of introducing such allergens.

This Section is focused on primary production of cultivated commodities where there is a likelihood of allergen cross-contact (often referred to as adventitious presence).

3.1 Environmental hygiene

Depending on the crop, growers should consider the potential for allergen cross-contact from the growing environment. In order to assess the likelihood of allergen cross-contact, growers should know the history of the specific growing area (i.e. previous crops), and what other crops are being grown in close proximity. Where the adventitious presence of an allergen needs to be managed to ensure the allergen profile of the final food (e.g. gluten free), particular crop measures may be needed to remove, to the extent practicable, the physical remains of previous crops prior to re-planting.

3.2 Hygienic production of food sources

During growing, prevent or minimise the potential for maintenance machinery (e.g. used for weeding) to contain other plant material which could result in allergen cross-contact.

3.3 Handling, storage and transport

Prior to harvest, inspect equipment used for harvesting of crops to determine if the equipment is clear of visible plant debris and signs of previous crops/ food material.

Harvested commodities should be cleaned to the extent possible using various methods such as sifting via size, aeration, and mechanical cleaning to remove foreign allergenic matter where feasible and consistent with applicable Codex standards.

To prevent or minimise the likelihood of allergen cross-contact, storage facilities that hold different commodities should be visually inspected and appropriately cleaned. When handling multiple commodities such as grains/pulses/seeds ensure that physical segregation is in place to prevent or minimise the potential for allergen cross-contact. Having a clear “allergen map” (see Section 5.2.1.1) of the storage facility will show where allergenic crops enter and are stored so the potential for allergen cross-contact is managed.

Where a commodity is bagged, bags should be clean and those used for allergenic commodities should be identified (e.g. with different colours). Bags that have been used for an allergenic commodity should not be reused for a different commodity. For example, avoid the re-use of jute / canvas bags for non-allergenic commodities if they have already been used for allergenic commodities. Where grains or pulses are bagged and stored together, store allergens on the bottom shelves so that spillages can be easily managed from the perspective of preventing contact with non-allergenic commodities.

FBOs should ensure storage areas and storage materials designated for allergenic commodities are clearly labelled or colour coded to prevent unintentional mix of commodities.

Transportation of foodstuff should be carried out using a clean transport vehicle that is dry and free of the previous load to prevent or minimise the potential for allergen cross-contact. As necessary, transport containers should be cleaned before use. At unloading, transport containers containing allergenic commodities should be emptied of all cargo and cleaned as appropriate to prevent or minimise the potential for allergen cross-contact of the next load. The use of single-use packaging may be a useful option for some transporters. For more detail on transportation refer to Section 8.

3.4 Cleaning, maintenance and personnel hygiene at primary production

Refer to the *General Principles of Food Hygiene* (CXC 1-1969).

In addition, FBOs should ensure that the area where commodities are dried is clean and physical barriers are in place to prevent spillage and allergen cross-contact. Materials or containers used to lay, hang or bag commodities should be cleaned to remove allergenic residue.

SECTION IV – ESTABLISHMENT: DESIGN AND FACILITIES

PRINCIPLE:
Establishment design should prevent or minimise the potential for allergen cross-contact with respect to delimitation and isolation of areas, location of equipment, process flow, personnel movement and ventilation systems.

4.1 Location

4.1.1 *Establishments*

FBOs producing food at more than one site should consider whether it is feasible to consolidate production, processing and storage of products containing specific allergens at one location. Although this may not always be feasible, particularly for small businesses, it could be used to limit allergen cross-contact. If dedication of production facilities is not possible, the production could be separated in time (see 5.2.1.) or space (separate rooms or lines for different allergens) and the establishment may be designed to have a linear flow in the production. Effective cleaning procedures, such as those outlined in Section 6, are also important in managing allergen cross-contact.

4.1.2 *Equipment*

4.1.2.1 Manufacturing

Food manufacturing facilities commonly handle multiple allergens, frequently on the same equipment. Ideally these facilities would be designed to use processing lines dedicated to food with specific allergen profiles and where feasible, manufacturers should consider the use of dedicated lines, however, this is not feasible in all cases. Production sequencing (i.e. separation by time) should be considered as an option, especially for small businesses. An analysis of the process, including the equipment design, should be conducted to determine the likelihood of allergen cross-contact and whether dedicated processing lines, equipment redesign, or other control measures are needed to prevent or minimise allergen cross-contact.

If separate production lines are used for foods with different allergen profiles (e.g. for foods that do not contain a particular allergen and for foods that do), manufacturers should provide sufficient separation to prevent or minimise the potential for allergen cross-contact from one line to another based on the food, the process, and the likelihood of allergen cross-contact. Manufacturers should eliminate cross-over points or provide a means to contain or shield food (e.g. closed pipes, enclosed or covered conveyors) to prevent food spilling from one line to another.

4.1.2.2 Retail and food service

Retail and food service operators also commonly handle multiple allergens, frequently on the same equipment. They should, where feasible, use equipment dedicated to foods with a particular allergen (e.g. use a separate slicer for cheese, which contains milk, and for meats that do not contain milk). Alternatively, equipment should be cleaned when switching between foods with different allergen profiles (see Section 6.1).

4.2 Premises and rooms

Where feasible, FBOs (manufacturers, as well as retail and food service operators) should consider the need, based on the likelihood of allergen cross-contact resulting in a risk to the consumer with a food allergy, to provide a dedicated production area within the establishment for the preparation of foods that do not contain allergens, or provide dedicated production areas, or use screens to set up temporary segregated areas, for foods with different allergen profiles. For example, an establishment that handles shellfish and fish could dedicate separate rooms or other areas for handling these foods. One that handles different types of protein powders such as soy protein and milk powder could dedicate separate areas for handling these powders. Alternatively, equipment should be thoroughly cleaned when switching between different food allergens (see Section 6.1). Where applicable, the areas should be appropriately designed such that effective cleaning could be administered to reduce allergen cross-contact.

FBOs should consider having areas to store allergenic ingredients separately from other allergens, as well as separate them from non-allergenic ingredients or foods.

4.2.1 *Manufacturing*

Manufacturers should consider providing appropriate barriers (e.g. walls, partitions, curtains) or adequate separation (e.g. spacing) between lines, when necessary, to prevent or minimise allergen cross-contact when foods with different allergen profiles are processed at the same time.

When necessary, based on an assessment of risk to the consumer with a food allergy, manufacturers should consider designing premises and rooms to ensure appropriate allergen dust removal or hood systems to mitigate the likelihood of airborne allergen cross-contact throughout the processing area, especially when powdered allergens such as wheat flour, dried milk powder, soy protein, etc. are used. Such controls could be important where powders are dumped into mixers, hoppers, or carts to prevent dust settling on surrounding equipment. Where dust removal systems are not in place, other controls such as cleaning surrounding areas and equipment following dumping could be used to mitigate the likelihood of allergenic proteins in powders being transferred to other foods (see Section 5.2.1).

4.3 Equipment

4.3.1 *Manufacturing*

Equipment, tools, utensils and containers (other than single-use containers and packaging) in contact with foods that contain allergens should be designed and constructed to facilitate the effective removal of allergens during cleaning. To prevent or minimise the potential for allergen cross-contact, ideally, equipment, tools and utensils should be designed or selected so that allergens, especially particulate allergens (e.g. peanuts, tree nuts, sesame seeds, crumbs from baked goods), do not get caught in crevices and are difficult to remove by the cleaning procedures applied. Welds should be smooth, seals and hoses should not contain cracks, and “dead ends” in pipework or other areas where pockets of foods containing allergens can accumulate should be eliminated and where elimination is not possible, should be adequately cleaned.

4.3.2 *Retail and Food Service*

Retail and food service operators should use equipment, tools, utensils and containers (other than single-use containers and packaging) that have been designed and constructed to ensure that allergens can be easily and effectively removed during cleaning.

4.4 Facilities

FBOs, including retail and food service, should place hand wash basins in appropriate areas to prevent or minimise allergen cross-contact via personnel. Having convenient hand wash basins will encourage personnel to wash hands with soap and water between handling foods that have different allergen profiles. FBOs should also consider, based on the risk to consumers with food allergies, facilities to enable change of protective clothing, especially when personnel are moving from particular areas within the manufacturing facility such as those handling powdered allergens.

SECTION V – CONTROL OF OPERATION

PRINCIPLE:
The unintentional presence of allergens in food is prevented or minimised by taking preventive measures through GHPs and HACCP-based controls at appropriate stages in the operation.

5.1 Control of food hazards

FBOs should control allergens by preventing or minimising the potential for allergen cross-contact, by ensuring that information identifying the allergens present in foods is clear, correct, and that retail and food service establishments are able to communicate the allergens present in the foods they prepare. Controls should be risk-based. Information that may be helpful in assessing the likelihood of allergen cross-contact resulting in a risk to the consumer with a food allergy includes:

- allergens present in the facility;
- allergens that share the same processing line;
- the nature of the allergen (i.e. whether the food itself is an allergen, derived from an allergen, or the allergen is a component in an ingredient);
- whether allergens are, or may be, present, as notified by the supplier;
- whether the allergen is a particle, powder, liquid or paste;
- the processing steps where the allergen is used;
- ease of preventing allergen cross-contact between processing lines;

- ease of cleaning the equipment used to process foods with different allergen profiles; and
- the maximum amount of an allergen due to allergen cross-contact (if the information is available).

It is important that FBOs educate and train personnel to have awareness of food allergens and their health impact in order to ensure they implement the necessary allergen controls.

FBOs should:

- identify any steps in their operations that pose the likelihood of allergen cross-contact, assess the level of risk to the consumer with a food allergy at those steps and ascertain the ones that are critical;
- implement effective allergen management procedures to prevent or minimise allergen cross-contact at those steps;
- monitor, and when appropriate document, allergen management procedures to ensure their continuing effectiveness;
- review allergen management procedures periodically, particularly when the operations change;
- ensure suppliers are familiar and comply with food allergen specifications;
- notify customers in a timely manner of any changes to the allergen profile of the product; and
- ensure personnel are aware of and follow allergen management procedures.

5.1.1 *Manufacturing*

Manufacturers should identify steps in the operation that are critical to ensuring allergens are properly declared, including reviewing recipes and labels on compound ingredients, ensuring that the correct ingredients are used, and ensuring that the correct product is packed in the correct package (i.e. with the correct label). When reviewing recipes, product enhancement processes, such as egg washes on baked products for glossy finish, should also be included.

5.1.2 *Retail and food service*

Retail and food service operators should also manage menus, including in-store and on websites, if they contain allergen information, to assure content is current and matches the food product.

5.2 Key aspects of hygiene control systems

5.2.1 *Manufacturing*

5.2.1.1 Minimising allergen cross-contact during processing

If the same production area is used for foods with different allergen profiles, manufacturers should, where feasible, implement production scheduling to separate by time the manufacture of products with different food allergen profiles, e.g. process foods that do not contain allergens before foods with allergens. For instance, production schedules could be established in some cases whereby products that do not contain allergens are handled at the beginning of the schedule and different products containing the same food allergen profile could be run sequentially before products with different allergen profiles, to reduce the potential for allergen cross-contact (e.g. all frozen desserts containing only milk are run before those containing both milk and egg). Where possible, allergenic ingredients should be added as late in the production process as possible, or as far downstream as possible in the processing line (e.g. closest to the filling and packaging equipment), to minimise the amount of equipment in the production area that comes in contact with the allergen. This will help prevent or minimise potential allergen cross-contact and facilitate cleaning.

Manufacturers should design traffic flow of allergen-containing ingredients and waste, packaging supplies and personnel during the manufacture of foods to prevent or minimise the potential for allergen cross-contact. This should include consideration for managing the movement of transient people such as managers, quality assurance personnel, inspectors, maintenance personnel, and visitors.

“Allergen mapping” (a diagram that identifies where allergens are stored, handled and prepared on site, overlaid with the processes involved) can be useful in identifying areas where controls should be applied to prevent or minimise allergen cross-contact.

Where there is a likelihood of allergen cross-contact by personnel, personnel working on processing lines that contain an allergen should be restricted from working simultaneously on lines that do not contain that allergen.

Manufacturers should consider a system to clearly identify personnel working on lines manufacturing foods containing different allergen profiles, e.g. different coloured uniform or hair net.

Containers and utensils used to hold or transfer foods that contain allergens should, where possible, be dedicated to holding a specific allergen and be marked, tagged, or colour-coded to identify the allergen. Where such dedication is not possible, effective cleaning procedures should be in place to clean containers and utensils before use for a food with a different allergen profile. Disposable liners can also be an effective strategy.

Manufacturers should provide shielding, permanent and/or temporary partitions, covers, and catch pans to protect exposed unpackaged product from allergen cross-contact. Dry ingredients should be physically contained by covering specific equipment, such as conveying equipment, hoppers, storage silos, shakers, and size graders. Where feasible, manufacturers should dedicate utensils and tools for processing lines with different food allergen profiles; these utensils and tools should be distinguishable (e.g. through marking, tagging or colour-coding) to prevent or minimise the potential for allergen cross-contact. Similarly, manufacturers could consider duplicating certain pieces of equipment (e.g. scales) and dedicating them for specific allergen-containing production runs.

Manufacturers should not use ingredients for which the allergen profile is unknown, and should never guess or assume that an allergen is not present. Allergen-containing ingredients should, if feasible and necessary to prevent or minimise the potential for allergen cross-contact, be opened and weighed in designated areas before being transferred in covered or closed containers to the processing line.

When there is a likelihood of allergen cross-contact from the dust of dry ingredients that are, or contain, a food allergen, they should be added in a manner that minimises the potential for unintentional dispersion by dust. For example, the formation and dispersion of allergen dust can be minimised by adding liquid ingredients to mixers at the same time as powders, using dust collection systems (e.g. local exhaust, ventilation systems and/or vacuum systems), controlling surrounding dust sources, and/or covering equipment. The use of dry allergens with a propensity for dust formation should, where feasible, be scheduled at the end of a production/processing day.

Manufacturers should evaluate the potential for allergen cross-contact due to cooking media, such as water or oil. It may be necessary to use an appropriate method to eliminate any allergen-containing particulate material (for example, dedicated cooking media) if it is likely that the risk from allergens cannot be prevented or minimised, e.g. in the case where particles could end up in a food with a different allergen profile.

Spills that contain food allergens should be cleaned up as soon as possible, avoiding further dispersion (e.g. for liquids, spill kits could be used or vacuums for dust). Care should be taken not to generate aerosols with high pressure washers, or to re-suspend dust using compressed air hoses.

5.2.1.2 Rework and Work-in-Process

Rework and Work-in-Process (WIP) that contains allergens should be stored in sturdy containers with secure covers in designated, clearly marked areas. The rework or WIP should be appropriately labelled with all food allergens specifically highlighted, and properly inventoried and accounted for during storage and when used, to prevent or minimise the potential for incorporation into the wrong product.

Manufacturers should implement a policy for rework to be added back to the same product whenever feasible.

5.2.1.3 Application of Product Labels

Manufacturers should implement procedures to ensure that allergen information and labels are accurate (see 5.3 Incoming Material Requirements) and verify that the correct product labels are used on the production line when packaging/labelling products. This could involve manual checks and/or automated checks such as bar code recognition or vision inspection systems to ensure the correct packaging is used.

Labels and labelled containers should be stored in a way that prevents or minimises the potential to pull incorrect labels or containers during production. All labels and labelled containers should be removed at the end of the production run and returned to their designated storage area.

Manufacturers should implement procedures to segregate and re-label food products that have been labelled incorrectly. If it is not possible to re-label such food, they should have a procedure to destroy the food.

5.2.1.4 Monitoring and verification

Regular internal audits of production systems should be conducted to verify that the product formulation, including changes to product formulation, matches the records of allergenic ingredient use, that the final product matches the ingredients specified on the label, that allergen cross-contact controls are properly implemented and that line personnel are appropriately trained.

There should be a regular review of suppliers to ensure that all ingredients, including multi-component ingredients (e.g. sauces, spice mixes), processing aids, or operations, have not changed in a manner that introduces a new allergenic ingredient or that results in allergen cross-contact. Occasional product testing for undeclared allergens may also be considered as appropriate for verification.

5.2.1.5 Product development and change

When developing new products, or changing formulations or ingredient suppliers, manufacturers should consider whether it is feasible to use a non-allergenic ingredient to provide the same functionality as an allergenic ingredient to avoid introducing a new allergen into the establishment or a processing line.

Where the introduction of a new allergen into the establishment or a processing line is unavoidable e.g. during factory trials or consumer testing, care should be given to avoid allergen cross-contact with existing products.

Procedures for preventing or minimising allergen cross-contact, as well as relevant HACCP documents, operating procedures and associated personnel training, may need to be reviewed and revised to address a new product or formulation with a different allergen profile, especially when an allergen new to the production facility is involved.

Product labels should be designed and verified to match the formulation before the new product or changed formulation is produced, and product and label specifications that are no longer used should be destroyed in a manner that prevents accidental use. Where there is a change in the formulation which results in a change of allergen profile, manufacturers should consider indicating this on the packaging and on their websites for an appropriate period, with information such as "new formulation". Consideration could be given to changing packaging features such as colour when a new allergen is included in the formulation.

5.2.2 *Retail and Food Service*

Equipment that is used for allergen-containing foods should be marked, tagged, or colour-coded to identify the allergen. Where this is not practical, equipment should be cleaned between use for foods with different allergen profiles.

Allergen-containing food that is not in sealed packages, should also be labelled with the allergen and stored separate from food that does not contain allergens, or from food with a different allergen profile (e.g. separation that prevents physical contact).

5.2.2.1 Minimising allergen cross-contact during preparation

Retail and food service personnel should be aware of allergens in the foods provided to customers in order to provide appropriate information when a customer indicates they have a food allergy. They should also know and understand the likelihood of allergen cross-contact from the processes followed in the preparation of food items. Allergen cross-contact during preparation primarily occurs in the following ways:

- food to food, e.g. by foods touching or one food dripping onto another food;
- food to hand to food, e.g. handling by cooking personnel, front service personnel or using hands in multiple containers of ingredients containing different allergen profiles without washing in between, such as adding toppings to pizzas, assembling sandwiches etc.;
- food to equipment/utensils/surface to food, e.g. sharing of utensils, for example, using a whisk to stir a milk-based sauce and then using the same whisk to stir eggs, without thoroughly washing and drying the whisk between procedures, or using the same cutting board, griddle/frying pan, or other surface to prepare fish and shellfish; and
- food to cooking media, e.g. shared fryers or boiling vats for cooking food.

Preparation processes should be designed to prevent or minimise the potential for allergen cross-contact during food preparation, e.g. separate equipment and utensils that are used for foods with different allergen profiles, dedicate utensils/equipment for allergen-containing products, or clean equipment, utensils and preparation surfaces thoroughly between uses for foods with different allergen profiles.

Retail and food service operators should consider, where feasible, assigning one individual to prepare an allergenic food (e.g. deveining prawns/shrimp). Where this is not possible, allergen control procedures should be in place between preparation of foods with different allergen profiles (e.g. washing hands, changing disposable gloves).

Containers and tools used to hold or transfer foods that contain allergens should, where possible, be dedicated to holding a specific allergen and be marked, tagged, or colour-coded to identify the allergen. Where such dedication is not possible, effective cleaning procedures should be in place to clean containers and tools before use for a food with a different allergen profile.

Food preparation operators should only use ingredients listed in the recipe, and not replace one ingredient with another unless the ingredient is known not to contain a new or different allergen. To assist with the understanding of foods or ingredients of allergenic significance to the FBO, there could be a list of relevant allergens available in the kitchen area. Operators should not use foods for which the allergen profile is unknown, and should never guess or assume that an allergen is not present.

FBOs should consider whether it is feasible and necessary to dedicate cooking media, such as water or oil, to foods with specific allergen profiles to prevent or minimise allergen cross-contact, for example, not using oil to fry both battered / breaded fish and potatoes, as batter / breadcrumb particles could end up in the potatoes. It may be necessary to use an appropriate method to eliminate any allergen-containing particulate material present in frying oil if it is likely that such particles could end up in food with a different allergen profile.

Foods displayed for consumer purchase should be protected from allergen cross-contact during display, e.g. by wrapping or by separation that could include plastic barriers. Designated serving utensils should be provided to handle foods with different allergen profiles, where feasible, and should only be used for that food, or the utensils should be cleaned between uses for foods with different allergen profiles.

Personnel handling product at display and consumer purchase, as well as servers in restaurants and other food service operations, should be knowledgeable about the allergens in products; alternatively, the personnel should know how to obtain the information about the allergens in products rapidly - especially when the food does not contain labelling that identifies the allergens.

5.2.2.2 Rework

Rework and WIP should be stored in sturdy containers with secure covers in designated, clearly marked areas. The rework or WIP should be appropriately labelled to prevent or minimise the potential for incorporation into the wrong product. FBOs should implement a policy for rework to only be added back to the same product whenever feasible.

5.2.2.3 Application of Product Labels

In retail and food service operations that package and label foods sold directly to consumers, the label or allergen information is usually generated and provided on site, and often at the point of purchase. Retail and food service operators should implement procedures to ensure that product labels are accurate and the correct product labels/information are provided when packaging/labelling products. They should implement procedures to segregate, and re-package or re-label products, or destroy food products that have been labelled incorrectly.

5.2.2.4 Monitoring and verification

Supervisors of food preparation and service personnel in retail and food service operations should periodically verify that personnel are following the procedures established to prevent or minimise the potential for allergen cross-contact and inform the consumer about allergens in foods, including applying the appropriate label to packaged foods and providing the relevant information with respect to unpackaged foods. Regular review of ingredients, recipes, and labels, to ensure accuracy of allergen information should also be undertaken.

5.2.2.5 Product development and change

When introducing a new product or recipe with a different allergen profile, procedures for minimising allergen cross-contact should to be reviewed and possibly revised. Personnel that handle these foods, in particular those who have direct interaction with customers should be made aware of the changes in a timely manner. Allergen information on menus and websites should also be updated.

5.3 Incoming material requirements

5.3.1 *Manufacturing*

Manufacturers should indicate requirements for their suppliers that address allergen controls as appropriate to the supplier and the use of the ingredient by the manufacturer.

Manufacturers should ensure that their suppliers have good allergen management practices to prevent or minimise the likelihood of allergen cross-contact between foods with different allergen profiles. Suppliers should also ensure that all food allergens, including allergens in ingredients they use to manufacture another product, are listed in product information or on the label of the finished product (e.g. milk in a spice blend ingredient used in a food) and should have processes in place to manage allergen labelling.

Manufacturers should have programs in place to assess the allergen control programs of suppliers when necessary, e.g. a supplier questionnaire/survey and/or an audit to assess the allergen profile of foods produced at the supplier's site and the supplier's allergen management plan, including allergen cross-contact controls and cleaning programs. A specification sheet, certificate of analysis, or vendor guarantee periodically or with each lot can also be useful in addressing a supplier's control of food allergens, as well as occasional testing for undeclared allergens when necessary for verification.

Manufacturers should have procedures/policies in place for suppliers to notify them, in a timely manner, of any changes in the supplier's operation that could impact the allergen profile of the ingredient from the supplier (e.g. a change in formulation affecting the allergen profile or the introduction of a new allergen into the supplier's establishment, particularly if that allergen will be used on the same line as the ingredient provided to the manufacturer). Manufacturers should have a procedure/policy for ensuring that any change in supplier is accompanied by a review of the product(s) being supplied with respect to that supplier's allergen control program.

Incoming foods that are, or that contain, allergens should be labelled to identify the allergens that are present using common terms (e.g. 'milk' when casein is an ingredient). Manufacturers should review labels on, and documents accompanying, shipments of ingredients (including ingredients used in small amounts such as spice blends and flavours) to confirm that the ingredient contains only the expected food allergen(s). Particular attention should be given to multi-component pre-mixed ingredient packages where allergen information may be difficult to locate on the package.

Manufacturers should inspect ingredients, especially allergen-containing ingredients, upon receipt to ensure that the containers are intact and that the contents have not leaked or spread. If containers have leaks, tears, or other defects, manufacturers should inspect nearby containers for evidence of allergen cross-contact. Manufacturers should reject (or properly dispose of) ingredients when a container is not intact or there is evidence of allergen cross-contact, or handle damaged containers in a manner that prevents or minimises the potential for allergen cross-contact (e.g. place a damaged container inside another container, or move the contents of the damaged container to a different container).

Manufacturers should clearly identify allergen-containing ingredients using a system that adequately distinguishes between ingredients with different food allergen profiles (e.g. tags or colour coding of cases/pallets/bags) to alert personnel that these materials are subject to special precautions and handling procedures throughout the establishment. The likelihood of allergen cross-contact from processing aids (such as pan-release agents that could contain soy) should be assessed to determine if special precautions and handling procedures are needed.

Secure, closable containers should be used to store allergen-containing ingredients and processing aids. Manufacturers should segregate allergen-containing ingredients based on allergen type and from ingredients that do not contain allergens e.g. in a dedicated storage room or area of the establishment, or in separate storage bays or areas of a storage room. When this is not feasible, ingredients that contain allergens should be stored below those that do not contain allergens to prevent or minimise the opportunity for allergen cross-contact in the event of a spill or leak.

5.3.2 *Retail and Food Service*

Retail and food service operators should purchase ingredients for which the allergen profile is known, e.g. packaged foods that list all ingredients. For example, if a bag of dried porcini mushroom and herb risotto mix does not list the contents, then the product should not be used. Sourcing ingredients from the same supplier may prevent or minimise changes in the allergen profile of foods supplied.

Retail and food service operators should:

- inspect all raw materials/ingredients, especially allergen-containing ingredients, upon receipt to ensure that the containers are intact and that the contents have not leaked or spread. If containers have leaks, tears, or other defects, operators should inspect nearby containers for evidence of allergen cross-contact;
- reject (or properly dispose of) ingredients when a container is not intact or there is evidence of allergen cross-contact; and
- handle damaged containers in a manner that prevents or minimises the potential for allergen cross-contact (e.g. place a damaged container inside another container, or move the contents of the damaged container to a different container).

Incoming packaged ingredients should be checked to ensure that the correct product was received. The labels of incoming packaged ingredients used in the preparation of foods should be reviewed for allergens to ensure knowledge about the allergens present in the final prepared food. Retail and food service operators should store allergen-containing ingredients in a manner to prevent or minimise the potential for allergen cross-contact e.g. store allergen-containing ingredients below those that do not contain allergens.

5.4 Packaging

FBOs should have procedures in place to review and approve all proposed product labels of all foods to ensure the allergens are declared accurately and that they are updated with any change in the formulation of the product. To avoid allergen labelling errors, there should be a procedure for destroying old packaging and labels (and to maintain electronic document control of old labels) when recipes/formulations have been changed.

5.5 Water

Water that has come in to contact with a food that is or that contains an allergen (e.g. water used for cooking or washing) should not be recirculated for use on a food that does not contain that allergen if such use could result in allergen cross-contact that could present a risk to consumers with a food allergy.

Re-use of clean-in-place (CIP) solutions, including rinse water, from washing equipment containing an allergen should be avoided if this could result in allergen cross-contact that could present a risk to consumers with a food allergy.

5.6 Management and supervision

FBO managers and supervisors need to have enough knowledge and understanding of allergen control principles and practices to be able to judge the potential for allergen cross-contact and determine the need for new or revised procedures to prevent or minimise the presence of undeclared allergens or the need to take corrective action when allergen control procedures are not properly implemented.

5.7 Documentation and records

Refer to the *General Principles of Food Hygiene* (CXC 1-1969).

5.7.1 *Manufacturing*

Records could include those for:

- suppliers' allergen management (e.g. questionnaire, survey and/or an audit to assess the allergen profile of foods produced at the supplier's site and the supplier's allergen management plan, including allergen cross-contact controls and cleaning schedules);
- suppliers' allergen information / specification
- procedures for handling and storage of allergens;
- label review;
- label application;
- scheduling;
- batching (putting together the ingredients in a food);
- rework;

- cleaning (Standard Operating Procedures (SOPs)) and documentation that cleaning has been done);
- line clearance procedures for label and packaging material removal at changeover;
- packaging label and print manufacturing records;
- validation data for allergen cleaning efficacy;
- verification activities (including any analytical test results for allergens);
- corrective actions taken;
- training (personnel trained, type of training, and date of training);
- SOPs to minimize/prevent allergen cross-contact;
- Allergen map; and
- HACCP documentation.

5.7.2 *Retail and Food Service*

Records could include those for:

- allergenic ingredients associated with each menu item;
- label printing and application, where feasible;
- cleaning (SOPs);
- SOPs for handling orders for customers with food allergies; and
- training (personnel trained, type of training, and date of training).

5.8 Recall procedures

Refer to the *General Principles of Food Hygiene* (CXC 1-1969).

FBOs should have recall procedures which address food allergens in their food recall plan.

A traceability/product tracing system should be designed and implemented according to the *Principles for Traceability/Product Tracing as a Tool Within a Food Inspection and Certification System* (CXG 60-2006) to enable the withdrawal of products where necessary. Procedures and processes should be in place that facilitate a one-step-back and one-step-forward traceability review in the case of a food allergen incident (e.g. an allergic reaction to an undeclared allergen).

5.8.1 *Consumer complaints and Resolution*

FBOs should have procedures in place for handling consumer complaints with regard to undeclared allergens in foods. The procedures should define the steps to be followed in handling complaints and include complaint collection, investigation, analysis, record keeping and reporting to relevant competent authorities where appropriate.

The complaint particulars should be evaluated and a decision made as to what action to take (e.g. recall of product, changes in manufacturing or preparation procedures, communicating publicly the details of the food allergen incident). The decision on action will consider the potential risk to consumers identified along with the timeliness, motivation and plausibility of the complaint. FBOs may need to contact the relevant competent authority for assistance in determining the most appropriate course of action.

The prime objective of an investigation into undeclared allergens in a food is to ensure that public health and safety are protected and the incident will not re-occur. The action plan depends on the outcome of the investigation. Action should always be taken in a timely manner to ensure further incidents do not occur, and public health and safety are protected.

SECTION VI – ESTABLISHMENT: MAINTENANCE AND SANITATION

PRINCIPLE:
The effective management of food allergens is facilitated by establishing effective maintenance and cleaning programs that prevent or minimise the potential for allergen cross-contact.

6.1 Maintenance and cleaning

6.1.1 *Manufacturing*

Inspect and remove any hand tools and utensils if they are damaged and not easily cleanable. Where feasible and appropriate, consider dedicated tools for specific equipment and/or label or colour code maintenance tools to correspond with specific allergens.

Equipment and preparation areas should be adequately cleaned between manufacturing foods with different allergen profiles to prevent or minimise the potential for allergen cross-contact. Cleaning procedures to remove allergen residues depend on the nature of the food residue, the equipment, the food contact surface, the nature of the cleaning (e.g. dry cleaning or wet cleaning) and the equipment, tools and materials used for cleaning. Equipment may need to be disassembled, where feasible, to adequately remove allergen residues. However, if some equipment cannot be disassembled, the allergen management program should take this into account. Dust socks should be removed and cleaned periodically.

When wet cleaning, low pressure water hoses should be used instead of high pressure water hoses for removing food residues from wet processing areas, since high pressure water hoses could spread and aerosolise food allergen residues during cleaning. When removing dry food residue from difficult-to-clean areas, scrapers, brushes and vacuum cleaners (that are fit for purpose) should be used, rather than compressed air, since compressed air can disperse food allergen residues from one area to another. If compressed air is used because vacuums cannot remove such residues and it is not practical to disassemble equipment for cleaning food residue, manufacturers should take precautions to contain food residues that are removed by the compressed air. The need to clean the ductwork in ventilation systems should be considered, where necessary, when cleaning the processing environment to prevent or minimise allergen cross-contact.

Bins, totes, and containers used for ingredients that are, or contain, a food allergen should be cleaned as soon as possible after being emptied to avoid being a source of allergen cross-contact.

Where feasible, cleaning equipment, tools, cloths, sponges, and cleaning solutions should be designated for foods with specific allergen profiles and used in a manner that does not result in allergen cross-contact. For example, freshly prepared cleaning solutions should be used rather than reusing cleaning solutions that have been used for foods with different allergen profiles to prevent recontamination of surfaces with allergenic food residues.

6.1.2 *Retail and Food Service*

Equipment, utensils, containers and preparation areas should be adequately cleaned (at a minimum visually clean) immediately after the preparation, storage, and dispensing of foods to prevent allergen cross-contact. Where feasible, cleaning equipment, tools, cloths, sponges, and cleaning solution should be designated for foods with specific allergen profiles and used in a manner that does not result in allergen cross-contact. For example, freshly prepared cleaning solutions should be used rather than reusing cleaning solutions that have been used for foods with different allergen profiles to prevent the recontamination of surfaces with allergenic food residues.

6.2 Cleaning programmes

6.2.1 *Manufacturing*

Manufacturers should develop cleaning procedures designed to remove food allergens to the extent possible. These procedures should specify the equipment, utensil, or area of the establishment to be cleaned; the tools and cleaning materials to be used; the sequence of steps to be followed; any disassembly required; the monitoring activities; and any actions to be taken if the procedures have not been followed or if food residues have not been adequately removed.

Validation of the cleaning process provides a means of assuring that cleaning processes are adequate to reduce or eliminate allergens and thereby prevent or minimise allergen cross-contact. The validation process should be specific to the allergen, process and product matrix combination. Cleaning processes should be verified through visual observation (checking that equipment is visibly clean) and, where feasible and appropriate, through an analytical testing program (refer to Section 6.5 of this Code).

Because introducing water into some facilities and equipment can result in microbial problems, some production procedures include a “push-through” technique in which the subsequent product, an inert ingredient, such as sugar or salt, or an allergenic ingredient, such as wheat flour, that will be an ingredient in the subsequent product is pushed through the system to remove food residue. Where the use of allergen testing is feasible and appropriate, “push-through” material, or the first product through the line, should be evaluated to demonstrate that a food allergen from a previous production run has been adequately removed by this process.

Manufacturers should develop allergen clean up procedures for the manufacturing line to be followed in the event of spills of allergenic ingredients.

Manufacturers should maintain cleaning records, including any test results, and review them to verify that cleaning procedures have been conducted and adequately removed allergens.

6.2.2 *Retail and Food Service*

Retail and food service operators should develop allergen clean up procedures for the food service preparation, storage and presentation areas, to be followed in the event of spills involving allergen-containing foods.

6.3 Pest control systems

Refer to the *General Principles of Food Hygiene* (CXC 1-1969).

In addition, pest control systems should not use allergens (e.g. peanut butter, cheese) as bait in traps. It is important for FBOs to make pest control service providers aware of concerns about the use of food allergens and potential for allergen cross-contact.

6.4 Waste management

FBOs should place waste materials that contain food allergens in covered bins, totes, or containers that are identified as holding waste and handled in a manner to prevent or minimise the potential for allergen cross-contact.

6.5 Monitoring effectiveness

Manufacturers should verify cleaning procedures, where feasible, to demonstrate that if the procedures are followed, allergens are effectively removed. Equipment should be inspected after each cleaning to determine whether it is visibly clean; this is particularly useful with particulate allergens.

If a manufacturer uses CIP systems to clean pipe work, equipment and machinery, there should be verification that the CIP system is effectively removing allergens (e.g. testing rinse samples or swabs).

Manufacturers should periodically conduct tests to detect food residues that remain on surfaces after cleaning as verification that the cleaning procedures have been appropriately implemented and are effective. Where feasible, these tests should include using an allergen-specific test kit (if one is available for the food allergen(s) of interest in the food matrix). Tests should be fit for purpose, i.e. appropriate for the targeted allergen, e.g. a casein (milk protein) test should not be used when whey (another milk protein) is the allergen of concern and the test should be validated to work with the matrix/food of concern. FBOs should know the limit of detection of the test used and the test specificity. If necessary, the FBO should obtain expert advice on interpretation of results (e.g. from the test kit supplier or an accredited testing laboratory).

SECTION VII – ESTABLISHMENT: PERSONAL HYGIENE

PRINCIPLE:
Personal hygiene practices should prevent or minimize the potential for food handlers to contribute to allergen cross-contact.

FBOs should consider the potential for allergen cross-contact of products with allergenic materials via food handlers. For example, food handlers may become a source for allergen cross-contact if food allergens on their skin or clothing are transferred directly to foods. Allergens present as dry products (powders) are more likely to be transferred by food handlers than non-volatile liquids containing allergens.

FBOs should ensure that personnel are trained to wash their hands between handling foods that have different allergen profiles, or after having been in contact with other sources of potential allergens. Where gloves are used, consider changing regularly to reduce the likelihood of allergen cross-contact.

7.1 Manufacturing

Where necessary, food handlers should wear dedicated clothing in areas where specific allergens are handled and there is a high likelihood of allergen cross-contact. The wearing of this clothing should be restricted to those areas. It may be appropriate to visually identify which personnel work on processing lines with different allergen profiles (e.g. different coloured clothing such as smocks or hairnets).

Personnel should not be permitted to bring food or drink into areas where product, ingredients or primary packaging is exposed, as these foods may contain allergens and result in allergen cross-contact.

7.2 Retail and Food Service

Where it is not feasible to assign one individual to prepare an allergenic food (e.g. deveining prawns/shrimp), ensure that the individual's hands are thoroughly cleaned; that, if using gloves, the individual changes gloves; and, when appropriate, the individual changes outer clothing, before handling another food with a different allergen profile.

SECTION VIII – TRANSPORTATION

PRINCIPLE:
Foods containing allergens should be managed during transportation so that allergen cross-contact is prevented.

8.1 General

Foods that are being distributed should be adequately contained or packaged to protect against allergen cross-contact.

The FBO assigning the food to be transported should ensure that the transporter/haulier has clear instructions to follow regarding potential allergen cross-contact situations.

The transporter/haulier should have procedures in place to ensure the integrity of the items they are transporting.

8.2 Requirements

Foods should be arranged for transport in such a way that unpackaged products with different allergen profiles are transported separately. If this is not possible, consider other means of segregating the foods, such as inserting a pallet cover (i.e. big plastic bag used to cover the entire pallet) to reduce the likelihood of allergen cross-contact, stacking non-allergenic food on top of allergenic food, or packaging the food using poly bags super sacks, or bags with plastic overwrap. Manufacturers should clearly communicate special instructions to their chosen transporter/haulier e.g. to not allow mixed transportation of goods, when there is the likelihood of allergen cross-contact.

The food transportation unit[4] and associated transport receptacles, should be suitably designed and constructed to facilitate inspection and cleaning, refer to the *Code of Hygienic Practice for the Transport of Food in Bulk and Semi-packed Food* (CXC 47-2001).

The transporter/ haulier should demonstrate a clear understanding of the food they carry and ensure personnel can identify and understand potential allergen cross-contact situations.

8.3 Use and maintenance

Vehicles such as bulk tankers used to transport liquids (e.g. raw milk, dairy mixes, juices, liquid egg, oil, water) must be adequately cleaned between loads to prevent or minimise allergen cross-contact. In some instances, dedicated bulk tankers may be best, for example, when transporting dry powders such as wheat flour.

Food transportation units (including relevant accessories, connections) and load carrying areas should be inspected and, if necessary, cleaned to remove any residue of the previous load, to the extent possible, before re-loading. The method of cleaning adopted should be appropriate to the type of commodity and type of allergen to be loaded in the unit.

[4] Food transportation unit (as outlined in the *Code of Hygienic Practice for the Transport of Food in Bulk and Semi-packed Food* (CXC 47-2001) refers to food transport vehicles or contact receptacles (such as boxes, containers, bins, bulk tanks) in vehicles, aircraft, trailers and ships, and other transport receptacles in which food is transported.

Carts and trolleys used to transport food within a retail or food service establishment or to customers should be kept clean between uses; e.g. a meal of cheese omelette and toast spilled onto a cart and not properly cleaned between uses could contaminate a subsequent meal, utensils or cups transported to another customer that has allergies to egg, milk or wheat.

For commercial scale haulage, a record should be made when a vehicle has been inspected, even if cleaning is not needed. If feasible, designated vehicles should be used for transporting open or bulk allergenic ingredients e.g. raw tree nuts.

Spillages of foods containing allergens that occur during transportation should be cleaned up as soon as possible to ensure that there is no subsequent allergen cross-contact. If any incident occurs during loading, transportation or unloading which could result in allergen contamination, the circumstances should be reported to the owner of the goods or their customer for their consideration and for them to advise if specific measures are needed.

SECTION IX –PRODUCT INFORMATION AND CONSUMER AWARENESS

PRINCIPLE:
Consumers should have access to adequate and correct information on the allergenic nature of a food. This should ensure that those with allergies can avoid allergenic foods and ingredients.

9.1 Lot identification

Refer to the *General Principles of Food Hygiene* (CXC 1-1969).

The *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985) applies.

9.2 Product information

Refer to the *General Principles of Food Hygiene* (CXC 1-1969).

9.2.1 *Manufacturing*

All food products and ingredients should be accompanied by, or bear adequate information, to ensure other food manufacturers or processors and consumers can be informed whether the food is, or contains, an allergen.

Manufacturers should have procedures in place to ensure that food is labelled appropriately, as per Section 9.3.

9.2.2 *Retail and food service*

All food products and ingredients should be accompanied by or bear adequate information to ensure customers can be informed whether a food is, or contains (or may contain), an allergen. Restaurants should ensure that any allergen information, both on site (e.g. the menu, over the counter) and online, is current. Similarly, retail operations should make sure allergen information they make available, e.g. online, is current and correct and that the allergens in any prepackaged products are correctly labelled.

Front of house personnel that serve food to customers should be knowledgeable about the allergens in menu items and preparation practices of the business that may result in allergen cross-contact, or know how to obtain this information. Signage, whether within menus or located at the front counter, requesting that customers make dietary requirements with respect to allergens known to food service personnel, could also be used. Where the food service operators and personnel cannot ensure that a food does not contain an allergen, this should be clearly communicated to the customer.

Self-serve areas where consumers handle unpackaged food products may pose a particular risk for consumers with a food allergy due to allergen cross-contact. Provision of information on the likelihood of allergen cross-contact, should be considered in these instances (e.g. allergen alert signage or symbol/icons).

9.3 Labelling

Refer to the *General Principles of Food Hygiene* (CXC 1-1969).

The *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985) applies.

The *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985) lists the foods and ingredients known to cause hypersensitivity that “shall always be declared” on the label.

9.4 Consumer education

Refer to the *General Principles of Food Hygiene* (CXC 1-1969).

SECTION X – TRAINING

PRINCIPLE:
Personnel engaged in food operations should have sufficient training in food allergen management to implement measures to prevent or minimise allergen cross-contact and ensure the correct label with appropriate allergen information is applied to food.

10.1 Awareness and responsibilities

All personnel involved in the production, manufacture, preparation, handling, distribution, retail and service of foods should understand their role in allergen management and the food safety implications of the presence of undeclared food allergens. This includes temporary and maintenance personnel.

10.2 Training programmes

All relevant personnel in a food business should receive food allergen training as appropriate to their job responsibilities, so they can contribute to the measures needed to prevent or minimise the likelihood of allergen cross-contact and labelling errors. Training programmes should be reviewed regularly to ensure they are up to date and appropriate. All appropriate personnel should be encouraged to report and/or take immediate action, if any labelling errors or an undeclared allergen is suspected.

Training programs should include, as appropriate to the person's duties:

- general allergen awareness, including the serious nature and possible health consequences of the unintended or undeclared presence of allergens in products from a consumer perspective;
- awareness of the likelihood of allergen cross-contact identified at each stage of the food supply chain, and the preventive measures and documentation procedures applicable in the food business;
- GHPs, for example, appropriate clothing, hand washing, and minimizing hand contact with foods to prevent or minimise allergen cross-contact;
- hygienic design of facilities and equipment to prevent or minimise allergen cross-contact;
- cleaning of premises, equipment and tools, including clear between-product cleaning instructions, and its importance in preventing or minimising allergen cross-contact;
- handling of rework materials to prevent or minimise unintended allergens from being incorporated into a food;
- waste management, for example how waste should be handled to prevent or minimise allergen cross-contact;
- situations where potential allergen cross-contact can occur between products, production lines or equipment, and prevention measures;
- procedures for corrective actions when allergen cross-contact or labelling errors are suspected;
- procedures for managing people traffic patterns around the site to prevent or minimise allergen transfer from one area to another, for example people changing production line or site, movement to the canteen/break room and of visitors;
- equipment movement around the site, for example, maintenance tools, carts, food trays, etc. to prevent or minimise allergen transfer from one area to another;
- labelling and the awareness of allergen presence in raw materials, semi-finished goods and finished products; and
- sources of allergen information, e.g. supplier specifications, supplier audit records.

10.3 Instruction and supervision

Refer to the *General Principles of Food Hygiene* (CXC 1-1969).

10.4 Refresher training

Refer to the *General Principles of Food Hygiene* (CXC 1-1969).