CHAPTER 16
Managing Allergens

Overview

Allergic reactions can be severe and sometimes fatal. Identifying and controlling allergens within the business production system is key to their management.

16.1 Types of allergens

Allergens are substances that, even in very small amounts, can cause a reaction in susceptible individuals. The severity of reactions can vary from mild to life-threatening. Reactions can involve respiratory, gastrointestinal and/or skin problems. Severe reactions (anaphylaxis) can also occur. Signs of anaphylaxis may include swelling of the tongue and airways, difficulty in talking and dizziness. This can be fatal if not treated immediately with adrenaline.

It is estimated that two to four percent (2-4%) of adults and five to ten percent (5-10%) of children are affected by a food allergy for which there is no known cure. The only completely effective way to manage a food allergy is to avoid foods containing the allergen. The food industry relies on allergen management practices and product labelling to manage this important food safety issue.

All allergens identified in Figure 16.1 are required to be declared in accordance with the requirements of the Food Standards Code when present in a product.

* Tree nuts include almond, brazil, nut, cashew, pecan, hazelnut, macadamia, pine nut, pistachio and walnut.

** Wheat (including its hybridised strains) and any of the following cereals if they contain gluten: wheat, rye, barley, oats, and their hybridised strains.

*** Added Sulphites in concentrations of 10 mg/kg or more.

Figure C16:1 | Allergens and their derivatives that are present in a food are required to be declared in accordance with regulatory requirements.

16.2 Cross-contact contamination

The risk of allergen cross-contact should be evaluated during food production. Cross-contact refers to the unintended presence of allergenic residue in foods that are not intended to contain them (Table 16.2).

Examples of cross-contact sources:

- tree nut waste materials or peanut shells used as mulch on crops
- fruit, vegetable or nut-in-shell waxes containing soy, casein (milk protein), peanut or sesame
- peanuts present during production, harvest or packing
- species used in crop rotation, cover crops and interplanting, as some commonly used crops (e.g. lupin, peanut, soy and wheat) are allergens
- shared equipment used for harvesting, storage and/or transport.

Image C16:1 | Tree nut waste materials, such as these peanut shells, can potentially introduce allergens if used as mulch.

Allergens can also be present if team members fail to follow good hygiene practices, such as washing hands before touching produce or refraining from eating while working during harvesting, packing or processing line.

Image C16:2 | Crop rotations, cover crops, and inter-planting with wheat, soy, peanuts, or lupin can potentially introduce allergens through cross-contact.

Image C16:3 | New products applied to produce, including food-based films and agronomic sprays, should be assessed to identify the presence of allergens.

16.3 Food Regulation

Standard 1.2.3 and Schedule 9 of the Australia New Zealand Food Standards Code require a mandatory declaration for the main foods and their products (Figure C16:1) that may cause an allergic reaction if present in ingredients or processing aids. In the absence of labelling, this information should be displayed on or in connection with the food display or provided to the purchaser on request.

There is currently no mandatory requirement for declarations in the event of unintended cross-contact for (e.g. “may contain” statements) [refer Appendix 2].

16.4 Sulphites

Sulphites in concentrations of 10 mg/kg or more, are required to be identified on labelling.

One of the most important issues relevant to the fresh produce industry is the use of sulphur dioxide (SO_2) release sheets in packed/stored grapes. The sheets slowly release SO_2, which controls fungal rots inside the plastic-lined package.

If you have sulphites in concentrations of 10 ppm (10 mg/kg) or more, you are required to comply with allergen labelling requirements.

Products containing sulphites, irrespective of if they require mandatory allergen labelling, may also be subject to food amendment labelling requirements, as outlined in Standard 1.2.4 Information requirements – statement of ingredients and in Schedules 7 and 8 of the Code [refer Appendix 2].

16.5 Good practice for managing allergens

Table C16:2 | Summary of good practice for managing allergens.

Management area	Good practices
Planning	An allergen management plan is in place for the business.
Inputs	Allergens potentially associated with raw material inputs (e.g. waxes, coatings, mulches, fertilisers, agronomic sprays, storage aids) are identified. Procedures are in place to obtain information from suppliers on the potential presence of allergens.
Growing	Species used in crop rotation, cover crops and interplanted crops are included in the assessment for known allergens.
Assessment and management	All new products are assessed for potential allergen content prior to use, while existing products undergo routine checks to monitor allergen presence. If allergens are identified, an allergen control procedure is documented including: • listing raw materials and produce containing or potentially contaminated with allergens • details on how products containing allergens are stored and handled • what cleaning procedures are required to prevent cross-contact • labelling of allergens in accordance with regulations.
Training	Team members should receive training at induction and through refresher sessions. Training should cover: • awareness of allergen risks • how cross-contact may occur • procedures to identify and control allergen risks.

Resources

Australasian Society of Clinical Immunology and Allergy (ASCIA) (2023) *ASCIA 2023 Conference Report*. Sydney: ASCIA.

Allergen Bureau (2024) *VITAL Program*.

Food and Agriculture Organisation (FAO) and World Health Organisation (WHO) (2020) *Code of practice: CXC 80-2020*. Codex Alimentarius Commission. Rome: FAO and WHO.

Australasian Society of Clinical Immunology and Allergy (ASCIA) (2025) *ASCIA action plans and first aid plans for anaphylaxis*.