CHAPTER 14
Managing People

Overview

Team members are a significant potential source of contamination, particularly microbiological. Team members should maintain good personal hygiene, refrain from handling produce while sick, and be trained to prevent physical, chemical (including allergen) and microbiological contamination of packed produce.

14.1 Hazards and sources of contamination

Team members, contractors and visitors can all be sources of physical, chemical (including allergen), and microbiological contamination. Microbiological contamination may be caused by team members who are infectious during or after sickness or who have poor personal hygiene. Several outbreaks of foodborne illness have been traced back to a contaminated team member handling produce.

Humans can spread microbes including bacteria (e.g. *Staphylococcus aureus, Shigella spp.*, *Salmonella spp.*) and viruses such as Hepatitis A. These microbes may be present anywhere on the body, with higher concentrations around the anus, nose, mouth and in open sores. Activities such as using the toilet, blowing the nose, sneezing, coughing, eating or smoking can transfer pathogens to team members' hands and subsequently to produce.

Table C14:1 | Potential sources of contamination from team members, contractors and visitors.

Food safety hazard	Source of contamination
Physical	Hair, jewellery, tools, clothing and other personal items (e.g. rings or buttons falling into packed produce). Bandages and gloves falling into packed produce.
Chemical	Team members not cleaning their hands after handling chemicals. Cross contamination from dirty clothing.
Allergen	Contaminated clothing. Hands not washed after consuming foods containing allergens. Handling growing media that may contain allergens.
Microbiological	Not properly washing and drying hands after: • using the toilet • eating food • smoking • sneezing, coughing or spitting into hands • touching domestic animals/pets • handling pests. Contaminated water used for washing hands. Contaminated rags and towels used for drying hands. Gloves not discarded after use or effectively cleaned. Team members with infectious diseases touching produce. Unacceptable practices including touching produce with uncovered or bleeding wounds and spitting, coughing or sneezing onto produce.

14.2 Training

Personal health and hygiene starts with company management. Management is responsible for providing and maintaining a safe and clean working environment. This means ensuring equipment is safe as well as implementing policies and procedures that promote safe and hygienic work habits by team members [refer Chapter 20].

Team members need to understand they are responsible for producing safe food. They should be trained so that they understand potential food safety hazards and sources of contamination. The level of training should be appropriate to the level of risk of the duties performed. Team members should be informed of the personal hygiene standards required and instructed in important practices such as correct handwashing.

Food safety training should be included as part of induction for new team members and refreshed annually. The content and format of the training needs to be appropriate to the literacy skills of the team member. Written instructions and signs in appropriate work areas and facilities will reinforce and remind team members of personal hygiene standards and inform contractors and visitors about the standards of personal hygiene required. Photographs, diagrams and cartoons can convey simple and clear messages. Supervisors should monitor team members and facilities to check that the personal hygiene standards are followed.

Image C14:1 | Hygiene signs should be easy to read, using team members' native language and include clear graphics to ensure the message is communicated effectively.

14.3 Personal hygiene

Team members, contractors and visitors can transfer human pathogens to produce from their hands and other body parts and clothing.

Inadequate personal hygiene practices, such as spitting, coughing, sneezing or exposure to blood can lead to produce contamination. To reduce the risk of physical contamination, it is essential to maintain good personal hygiene standards, minimise or cover jewellery and wear suitable personal protective equipment (PPE).

14.3.1 Handwashing and sanitation

Hands should always be washed with soap and potable water (i.e. contains no more than 1 cfu of *E. coli* per 100 ml) and then dried thoroughly using single-use paper towels. Contaminated hands can infect or contaminate produce or product contact surfaces. Using potable water reduces the risk of contamination of hands with harmful microbes and human pathogens [refer Chapter 7].

When handwashing with non-potable water is unavoidable, hands should be thoroughly dried and then sanitised using an alcohol base product containing at least 60% alcohol.

Where air dryers are used instead of paper towels, team members should ensure their hands are thoroughly dry before applying hand sanitiser.

Hands should be washed:

- before starting work
- after each visit to the toilet
- after blowing the nose, coughing or sneezing into hands
- after eating or smoking
- after touching domestic animals or handling livestock
- after handling rubbish or performing maintenance on equipment
- after any break from work.

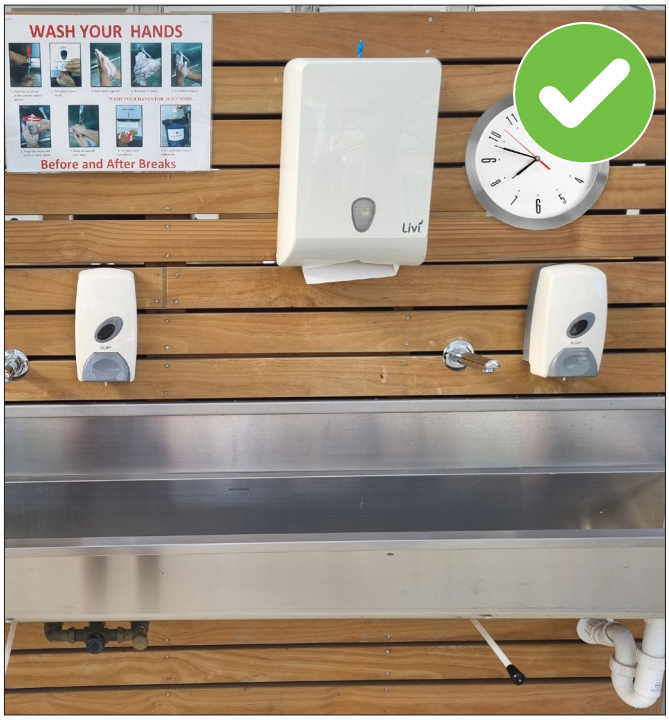

Image C14:2 | Handwashing stations should be clean, clearly signed and stocked with soap and single-use paper towels. A visible 20-second timer should be provided to support effective hand hygiene. Any glass or hard plastic items used for timing should be recorded in the glass and hard plastic register.

Image C14:3 | Inadequate handwashing and drying facilities increase the risk of produce contamination by team members (e.g. unhygienic or not hands-free).

Washing hands for the correct length of time is the best way to ensure handwashing has removed pathogens. There are many online resources from public health authorities including videos to support the training of team members in effective handwashing.

Spending twenty seconds washing the hands, including scrubbing fingernails, interlocking fingers and cleaning to the wrist, will ensure that washing has been effective. This is about the same time as it takes to hum the 'Happy Birthday' song from beginning to end, twice.

Soap contains surfactants that help lift soil and microbes from the skin and team members are more likely to wash for 20 seconds if using soap. Warm water is no more effective at removing microbes than cold water, but it does encourage longer time spent washing hands.

Hands should be washed and dried before using sanitisers, as dirt can shield microbes from being killed. Without adequate cleaning, the sanitiser is ineffective, increasing the risk of cross contaminating the produce with harmful pathogens.

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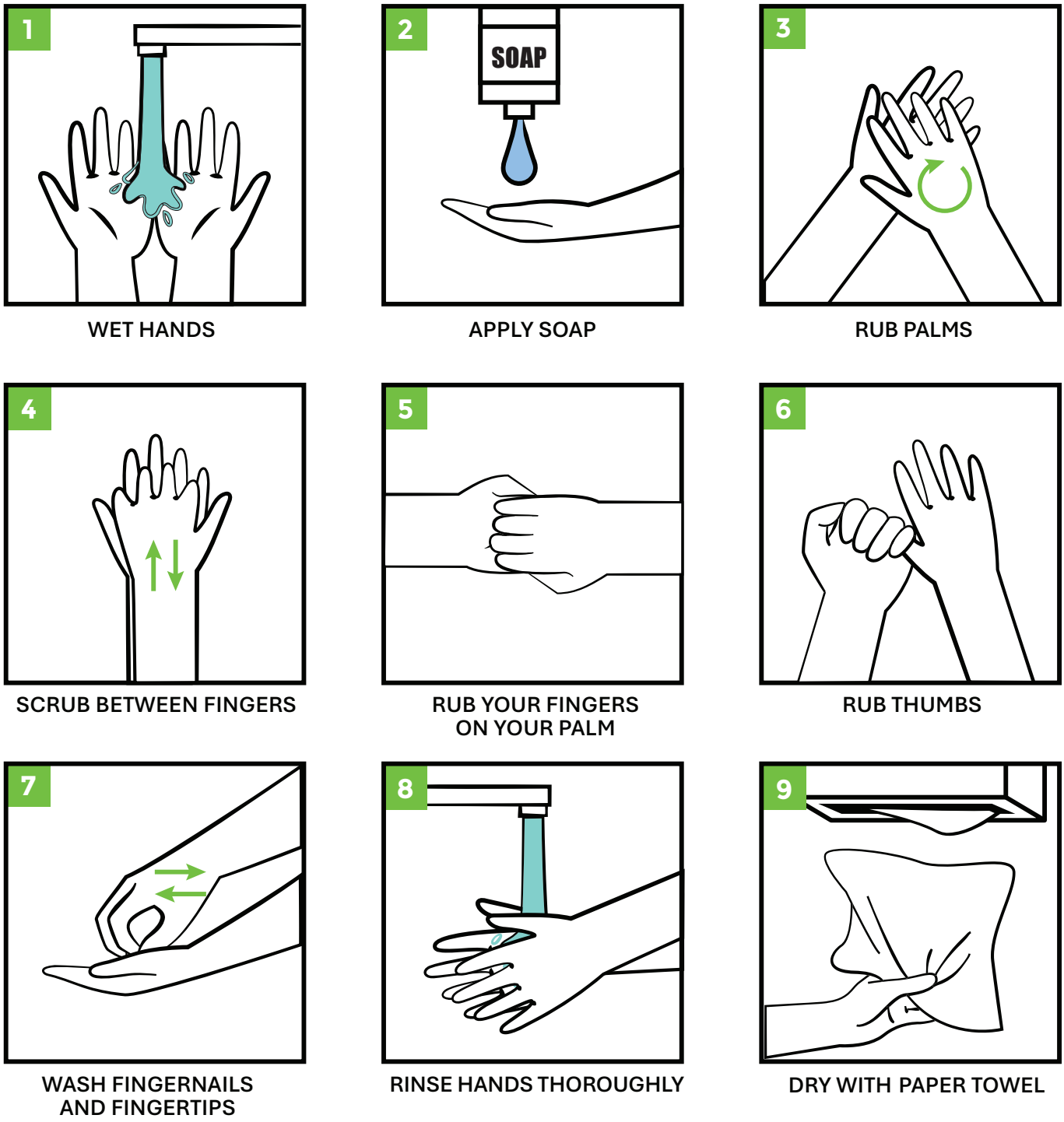

Figure C14:1 | Effective hand hygiene includes thorough washing with soap for at least 20 seconds (steps 3 to 7) followed by drying with clean disposable paper towel to reduce the risk of spreading contaminants.

14.3.2 Wounds and injuries

Cuts, minor wounds and sores should be covered with secure, waterproof bandages or dressing, preferably blue and detectable by metal or x-ray. In wet environments, use waterproof coverings and where possible, cover dressings with a glove to prevent contamination.

Where wounds cannot be fully covered, the team member should be excluded from direct contact with produce, equipment and water that contacts the produce. Produce contaminated with blood and other bodily fluids should be discarded and contaminated equipment cleaned and sanitised. A dedicated kit should be available to carry out this task to prevent the risk of cross-contamination from general cleaning equipment. First aid kits with appropriate wound coverings should be readily available. These should be stocked with materials kept in sanitary and usable condition and which are within their expiry dates.

14.3.3 Gloves

Dirty gloves can be a source of microbial contamination. Disposable gloves are therefore preferable to reusable gloves. Disposable gloves should be removed, discarded and replaced with a new pair after visiting the toilet, blowing the nose, coughing or sneezing into hands, eating, smoking, handling rubbish or touching other contaminated surfaces. If reusable gloves are used, they should be washed and sanitised the same method as for hands.

Where reusable gloves are used, they should be kept in good repair and free of gross soiling to prevent contamination of the produce. Waterproof gloves will still need to be cleaned and sanitised in the same method as hands. Fabric gloves should be replaced if they are soiled to prevent spreading the soil onto the product. When cloth gloves are washed, consideration should be given to the perfumes and whiteners used in some laundry materials. Gloves need to be thoroughly rinsed and allowed to dry before returning them to use.

14.3.4 Hair

In produce packing facilities, hair and beards should be covered to prevent physical contamination. Hair nets, beard nets, caps or beanies may be used. Team members with long hair should tie it back securely.

14.3.5 Eating, drinking and smoking

Eating, chewing gum, smoking and drinking fluids other than water should not be allowed. These activities should be restricted to designated areas. All of these activities require hands to be washed and gloves to be replaced before returning to work.

14.3.6 Jewellery

Jewellery poses a contamination risk by collecting dirt and microbes or falling into produce. Items that may break or detach, such as charm bracelets or dangling earrings should not be worn. Ideally, no jewellery should be worn during packing, though a plain wedding band is generally acceptable. Any jewellery that cannot be removed should be securely covered.

Figure C14:4 | Blue adhesive bandages are easier to detect in packed produce than skin-coloured dressings.

Figure C14:5 | Gloves should be cleaned and sanitised using the same method as hands.

Figure C14:6 | Hair nets and beard nets should be worn when packing produce ready for retail sale.

14.3.7 Clothing

Contaminated clothing may carry microbes or chemicals. Team members should wear clean outer garments free of loose buttons, threads or attachments. Top pockets often cause physical contamination (e.g. pens) and should be avoided. In many facilities, team members, contractors and visitors may be required to wear single-use protective clothing (e.g. aprons) and change or clean shoes. Any such protective clothing should be removed before entering the toilet.

14.3.8 Verification of personnel hygiene practices

Hand swabs from team members can be collected to provide confidence that hygiene practices are being followed and are effective. Chapter 18 details specific requirements for collecting and testing samples from the environment, water or produce. For the purposes of training, hand swabs are an effective method to illustrate the importance of adequate handwashing.

Another technique involves applying 'UV Wash and Glow' gel to hands, which highlights the number of bacteria that can remain after inadequate washing.

Image C14:7 | Jewellery can trap dirt and microbes or become a physical hazard.

Image C14:8 | Cleaning and sanitising footwear before entering production areas reduces the risk of pathogen contamination.

Image C14:9 | Fluorescent traces under UV light reveals areas missed during handwashing, assisting to reinforce good hygiene practices.

14.4 Team member facilities

Team member facilities need to be separate from produce handling and storage areas and designed to be easily cleaned and sanitised. They include meal rooms, change rooms, toilets and handwashing facilities at harvesting sites and in packhouses. Locating facilities near the entrance to the packhouse or harvesting area will make them more convenient to use, encouraging people to use them appropriately.

Providing accessible and hygienic toilet and handwashing facilities is critical to minimising the risk of contamination from field team members during harvest. To support food safety outcomes, growers should ensure that facilities are adequate, appropriately located, stocked and maintained in clean, working order throughout the harvest period.

Toilet facilities should be of adequate number for the people working in the field and in compliance with any local regulations. For a crew of approximately 30 team members, a minimum of two toilets and handwashing stations is generally recommended. Handwash stations should be equipped with potable water (*E. coli* less than 1 cfu/100 ml), non-perfumed liquid soap and single-use towels, with signage and hand-free operation preferred.

Image C14:10 | Portable toilets provided on-farm support team member hygiene and reduce the risk of field contamination.

Image C14:11 | Portable handwashing stations located near work areas support good hygiene practices.

Toilets and handwash facilities should be located within 500 m (less than a 7 minute walk) of the work area. However, greater than 200 m is recommended for ready-to-eat crops or adverse field conditions. The shorter distance helps maintain hygiene standards, reduce in-field relief and improve labour efficiency.

Toilets should be located an appropriate distance from any water sources (e.g. streams, ponds, boreholes and tanks) and not in areas prone to flooding. Waste and wastewater from the toilets and handwash stations should be captured for disposal in a way that does not contaminate the land and crop.

Growers should conduct a hygiene risk assessment to determine the appropriate number, location and servicing frequency of sanitary facilities, considering crew size, crop type, terrain and site accessibility.

14.5. Illness

Team members, contractors or visitors suffering from intestinal illness (e.g. gastroenteritis, Hepatitis A) can potentially contaminate produce, either directly or indirectly. Team members who have suffered from communicable diseases with symptoms such as diarrhoea, vomiting, fever or jaundice should not harvest produce or work in packing and storage facilities until they are fully recovered.

It is worth noting that people can remain infectious even after they have started to recover. As a guideline, team members need to be symptom-free for at least 48 hours before returning to work following vomiting and/or diarrhoea. Ideally, they should be cleared by a doctor before returning to work as high-risk illnesses share similar symptoms to more benign issues.

Recovering team members should be reassigned to other duties rather than being stopped from coming to work. This will encourage them to advise their manager or supervisor that they are or have been ill.

Team members with a respiratory illness, such as a cold, should not handle produce directly. They should take extra precautions (wearing masks) to prevent contamination of the environment and equipment from sneezing, coughing and blowing the nose. Tissues should be discarded after single use and increased handwashing and/or wearing of gloves is recommended.

Public health agencies are an excellent source of advice about specific illnesses and food safety risks.

14.6 Intentional contamination

Deliberate and malicious tampering with fresh produce to introduce a physical, chemical (including allergen) or microbiological hazard can cause injury or illness to consumers. Tampering is a criminal offence in Australia and New Zealand. If a tampering case is suspected, it should be reported to senior management to investigate immediately.

Deliberate produce tampering can occur in both field and packhouse settings. Incidents may be premeditated and targeted or entirely opportunistic. Motivation can include revenge, jealousy, media attention, extortion, disenchantment or boredom. Similar risks may also occur from suppliers and cause-driven groups.

There are several practical steps growers and packers can implement to reduce the threat of intentional contamination including:

- ensure team members are treated well and paid according to the law
- create an open and transparent workplace culture supported by appropriate internal processes
- empower team members to report any issue or suspicious behaviour to management (directly or anonymously via the business's complaints procedure), no matter how minor or unusual
- install locks, alarms and cameras where appropriate and have a key register
- segregate work areas and restrict access areas, where possible
- restrict access to high-risk water supplies
- provide a sign-in register for visitors and contractors and ensure that it is used at all times
- pay attention if visitors or team members are in unauthorised areas
- listen for lunch room chatter or behaviour that may be suspicious
- ensure team members understand company policies, procedures and the consequences of non-compliance for the business, its people, the industry and consumers.

Intentional contamination issues reinforce the importance of effective product identification and traceability [refer Chapter 17]. It is also essential to keep inventories of key inputs such as chemicals, fertiliser, fuel and equipment. Ensure that physical contaminants such as pins and staples are not present where fresh produce is harvested or packed.

14.7 Good practice for managing people

Table C14:2 | Summary of good practices for managing people.

Management area	Good practices
Induction	Workplace induction for team members, contractors and visitors includes guidance on essential basic food safety and hygiene, such as: • requirements for personal cleanliness and management of hair, clothes and jewellery • instructions on hygiene in the workplace (e.g. handwashing) and what to do if unwell. Training is supported by clear written instructions in appropriate languages and pictorial guides that are prominently displayed and easily accessible. Refresher training is provided at least annually.

Management area	Good practices
Training and awareness	Training is appropriate to the literacy level and duties of team members. Supervisors monitor handwashing and hygiene compliance. Visual aids (e.g. photographs, cartoons, UV "wash and glow" gel) are used to demonstrate effective handwashing and highlight missed areas. Hand swabs may be used to verify hygiene standards and reinforce training outcomes.
Personal hygiene	Hands are washed with potable water and soap for at least 20 seconds and dried using single-use paper towels. Handwashing occurs before starting work and after breaks, toilet visits, eating, smoking, coughing, sneezing or handling animals or waste. Where potable water is unavailable, hands are dried and sanitised using an alcohol-based product containing at least 60% alcohol. Wounds are covered with waterproof, blue metal detectable dressings and gloves are worn over the dressings. Jewellery is minimised or securely covered, with a plain wedding band acceptable. Clean outer garments are worn, free of loose items and single-use aprons or protective clothing are used, as required. Eating, smoking and drinking, except water are restricted to designated areas. Hair and beards are covered in produce handling and packing areas.
Glove use	Disposable gloves are preferred and replaced after contamination risks such as toilet use, eating or sneezing. Reusable gloves are cleaned and sanitised as for hands and replaced if soiled or damaged.
Facilities	Team member facilities e.g. meal rooms, change rooms, toilets and handwashing need to be separate from produce handling and storage areas and designed to be easily cleaned and sanitised. Toilets and handwashing stations are clean, well equipped and conveniently located (i.e. within 500 m of work areas or less than 200m for ready-to-eat crops). Facilities are supplied with potable water, non-perfumed liquid soap and single-use towels. Waste and wastewater are disposed of to avoid land or crop contamination. Facilities are located away from water sources and flood-prone areas and maintained in clean working order throughout harvest.
Illness management	Team members with illnesses such as gastroenteritis or hepatitis A do not handle produce until fully recovered and symptom-free for at least 48 hours. Recovering team members are reassigned to non-produce contact duties. Team members with respiratory illness (e.g. colds) do not handle produce directly, wear masks and practise increased hand hygiene.

Management area	Good practices
Intentional contamination prevention	Team members understand company policies, procedures and the consequences of non-compliance for the business, its people, the industry and consumers. Fair treatment of team members and compliance with legal employment standards are maintained. Access to work areas, water supplies and key inputs (chemicals, fertilisers, fuel) is restricted and controlled. Visitor sign-in registers are used and monitored. Locks, alarms and cameras are installed, where appropriate. Workplace culture encourages prompt reporting of suspicious activity. Physical contaminants such as pins and staples are excluded from harvesting and packing areas.