

TABLE 1 Microbiological risk ranking of agricultural water according to water source and type of application

		WATER: TYPE OF APPLICATION					
		IRRIGATION				OTHER USE OF WATER	
		Flood irrigation	Overhead irrigation	Furrow irrigation***	Drip irrigation	Pesticide dilution	Cleaning of equipment and hand washing
WATER: SOURCE	Untreated Surface Water						
	Secondary treated Sewage Water*						
	Untreated ground Water						
	Untreated rain Water						
	On-farm disinfected Water**						
	Municipal Water						

- High microbiological risk** – Untreated surface water is vulnerable to microbial hazard contamination; secondary treated sewage water may still contain pathogens.
- Medium microbiological risk** – Depends on the microbiological quality profile of the ground water and rain water (usually good – if installations for collecting and storing the water are in good condition and well maintained, see section “Wells, water collection, storage and distribution systems” page 42 for details).
- Negligible microbiological risk** – Either municipal or on-farm disinfected water or water which is never used in contact with the harvestable part of the crop e.g. furrow irrigation for raspberries or drip irrigation for strawberries.

* Secondary treated sewage water: sewage water treated with primary and secondary treatment, but not disinfected (disinfection = tertiary treatment). See definitions of primary, secondary and tertiary treated sewage water in “Definitions” section page 6.

** Disinfected water can be surface water or ground water or rain water or secondary treated sewage water which has followed a disinfection process at farm, such as chlorination.

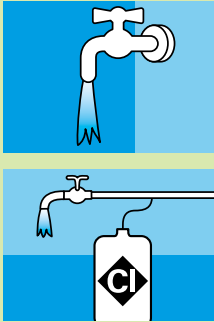
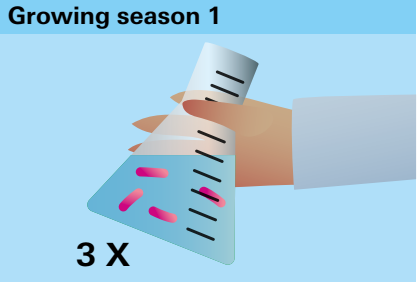

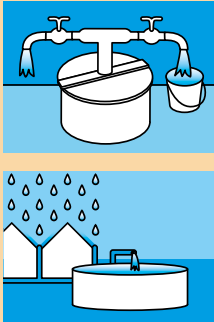

*** Negligible risk ranking when there is no risk that the irrigation water from the furrow splashes on the harvestable part of the crop. If there is a risk of splashing then the risk ranking becomes the same than Type A water.



If multiple water sources are mixed (e.g. in one storage) before application, the risk category of the higher risk water source should be applied.

TABLE 2 Microbiological testing recommendations for type A agricultural water* according to the water source

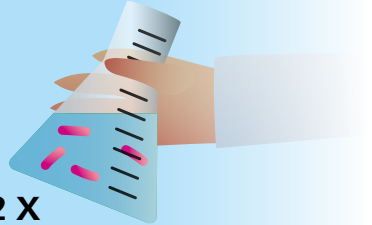
*Type A agricultural water: Agricultural water having direct or indirect contact with produce

WATER SOURCE	STEP 1: Validation of the water quality profile	
	Growing season 1	Growing season 2
<p>Negligible microbiological risk</p> <p>Municipal water and on-farm disinfected water</p> 		
<p>Medium microbiological risk</p> <p>Untreated ground water, untreated rain water</p> 	<ul style="list-style-type: none"> • Not required because water is disinfected. Start directly at STEP 2 (page 53). 	
<p>High microbiological risk</p> <p>Untreated surface water</p> 	<ul style="list-style-type: none"> • Sampling frequency: at least 3 samples per growing season (with one before first harvest) over two growing seasons to build the microbiological quality profile of the water → at least 6 samples in total. • Analysis and limit: <i>E. coli</i> < 100 CFU/100 mL. • Corrective actions: <ul style="list-style-type: none"> - Immediate corrective actions during the validation study: when a result is ≥ 100 CFU/100 mL, follow corrective actions from STEP 2. - Corrective action at the end of the validation study: If two or more consecutive values are ≥ 100 CFU/100 mL during validation, either: <ul style="list-style-type: none"> - Reduce the vulnerability of the water system if possible (e.g. construction work to have a deeper well, modification of rainwater collection system) then start a new validation study. OR - Switch to another water source of water if possible then start a new validation study. OR - Implement disinfection treatment of the water. • This validation should be repeated every 5 years or sooner if significant changes that may impact the water quality have occurred. 	

WATER SOURCE

STEP 2: Verification of the water quality profile

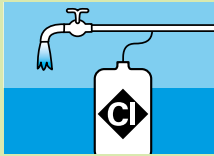
Growing seasons 3, 4, etc. (i.e. for any following season)



1-2 X

Negligible
microbiological risk

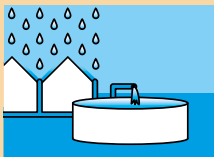
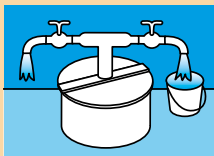
Municipal water and on-farm disinfected water



- Done to verify that there is no recontamination of water through irrigation equipment and/or distribution pipes and to verify effectiveness of on-farm disinfection treatment.
- **Sampling frequency:** One sample per growing season, during period of use and as close as practical to harvest.
- **Analysis and limit:** *E. coli* <100 CFU/100 mL.
- **Corrective actions:** If results are above the limit, do not use water as type A water until actions are taken to find the source of the contamination and to correct it, i.e. verify disinfection parameters, integrity from distribution pipes and irrigation equipment and initiate disinfection if necessary. Retest the water to verify that the problem has been solved before using it as type A water.

Medium
microbiological risk

Untreated ground water, untreated rain water



- Done for verification of the microbiological water quality profile.
- **Sampling frequency:** One or two samples per growing season (one as close as practical to harvest and a second one for long harvest seasons).
- **Analysis and limit:** *Escherichia coli* <100 CFU/100 mL.
- **Corrective actions:** If results are above this limit, do not use as type A water until actions are taken to find the source of the contamination and to correct it, e.g. verify integrity of wells and of collection, storage and distribution systems. Retest the water to verify that the problem has been solved before using it as type A water.

High microbio-
logical risk

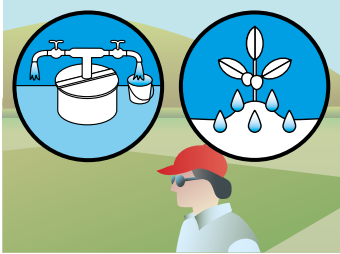
Untreated surface water



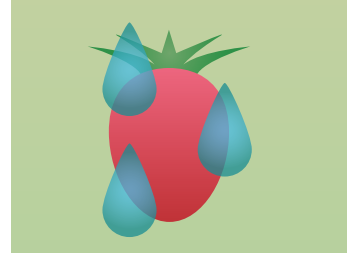
- Not required as this water source should not be used as type A water.

Agricultural water: REMEMBER!

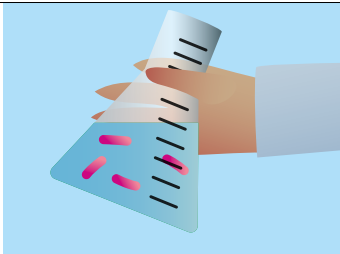
1. Identify the source of the water (e.g. surface, well, municipal...). Perform this identification for all water applications (e.g. irrigation, hand washing etc...).



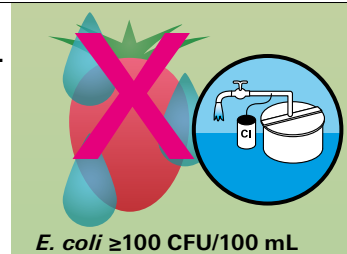
2. Type A agricultural water is agricultural water having direct or indirect contact with produce and requires microbiological testing for *E. coli* in 100 mL.



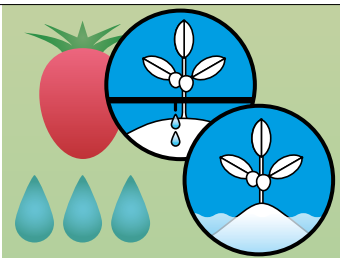
3. The testing frequency of type A water will vary according to the water source (see Table 2, page 52–53).



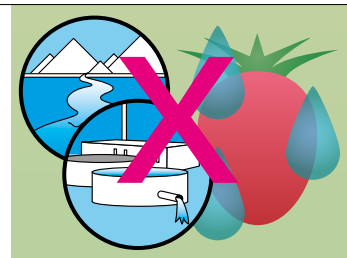
4. Water with *E. coli* ≥ 100 CFU/100mL cannot be used as type A water until actions are taken to find the source of the contamination and to correct it, and until testing shows compliance. If it is not possible to have *E. coli* < 100 CFU/100 mL, water can be treated e.g. chlorinated on-farm.



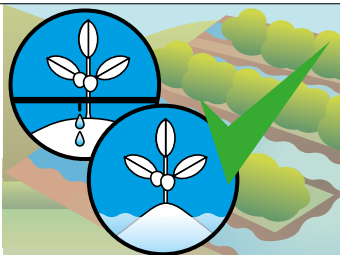
5. Type B agricultural water has no direct or indirect contact with produce and does not require testing.



6. Do not use surface water and secondary treated sewage water as type A water, unless treated.



7. Use of drip or furrow irrigation of berries is recommended.



8. Prevent contamination of water in wells and in water collection/storage systems: cover wells and water tanks, fence ponds etc...



5. Hygiene and human health

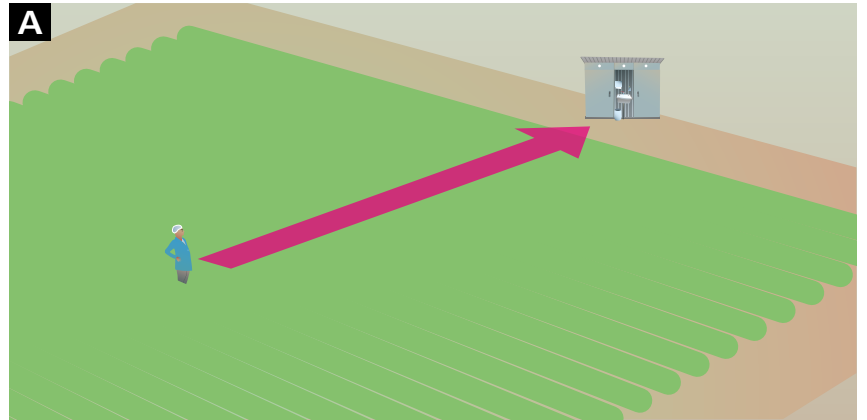


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Toilet facilities

(fixed and mobile)

A Toilets should be accessible in close proximity to the field, i.e. not only when workers are on break.



B Toilets should be in sufficient numbers to accommodate personnel, e.g. a minimum of one per 20 workers or according to local regulation, if defined.



C Toilets should be maintained in good repair, clean, with toilet paper and a covered waste basket. Door should close well.



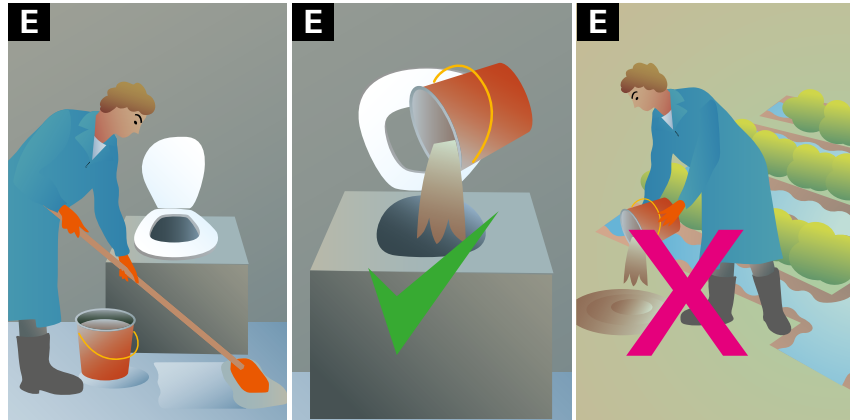
D Remind workers to use the toilets (consider the use of signs) and that soiled paper should go into the bowl, not in waste baskets or on the floor!



Toilet facilities

(fixed and mobile)

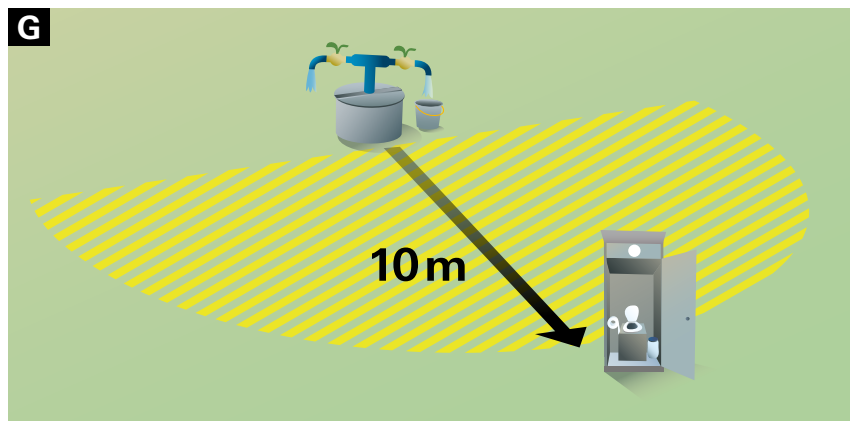
E Toilets should be cleaned daily and preferably constructed of materials that are easy to clean. Cleaning waste water should be discharged directly in the bowl or outside the crop production area in a place where it can be quickly infiltrated in the soil.



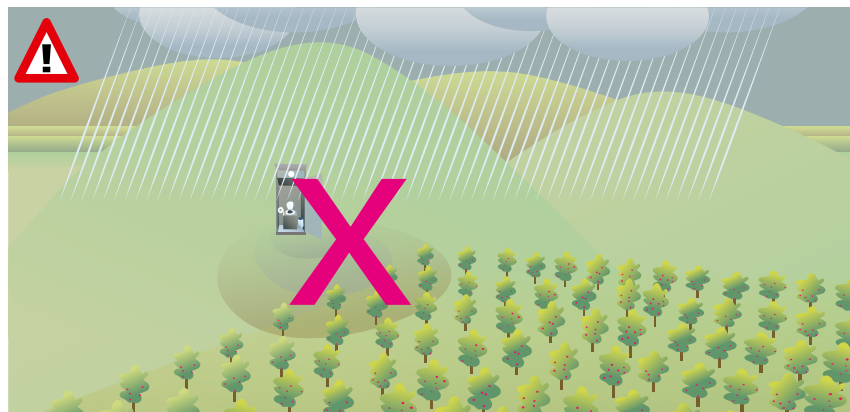
F Use caution with mobile toilets! Waste water from mobile toilet facilities that may drain into growing field can contaminate produce. Verify regularly the good condition of the mobile toilets (i.e. no risk of leakage).



G Toilet facilities should be located away from agricultural water sources (at least 10 meters away).



 Care should be taken to avoid locating toilet facilities where run-off into the growing field could happen.



Hand wash stations

(fixed and mobile)

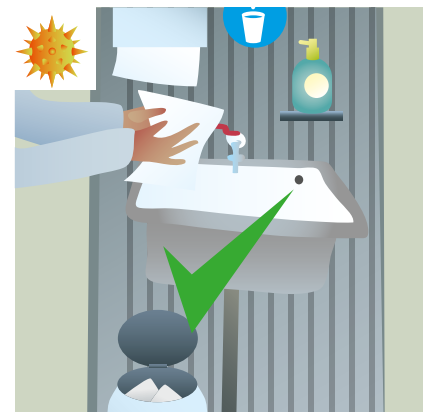
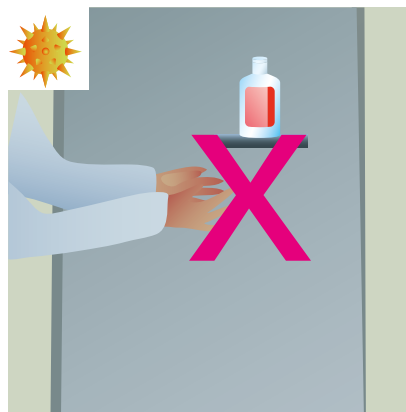
A Hand wash stations should be located inside or adjacent to toilet facilities and nearby break areas.



B Hand wash stations should provide potable water (i.e. water that meet the microbial standard for drinking water). They should have hand soap, disposable paper towels or other hand drying device and towel disposal container (covered waste basket).



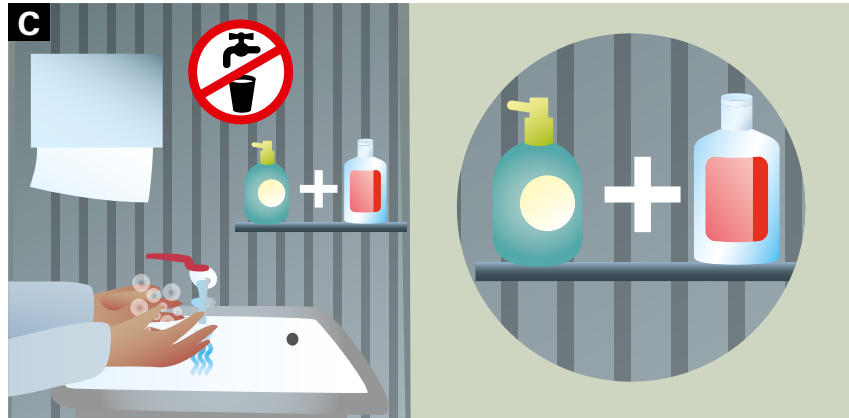
Hand sanitizers alone (hand disinfectants) are not an acceptable alternative to water, soap and disposable paper towels.



Hand wash stations

(fixed and mobile)

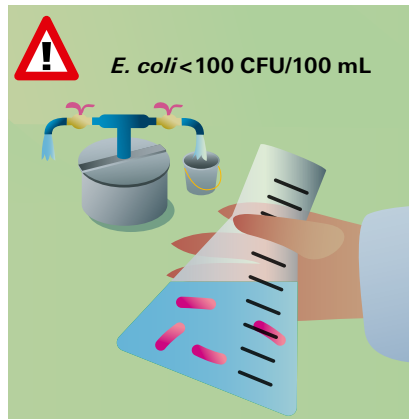
C If it is not possible to use potable water for hand washing, sanitizers should be used after washing hands with soap and agricultural water.



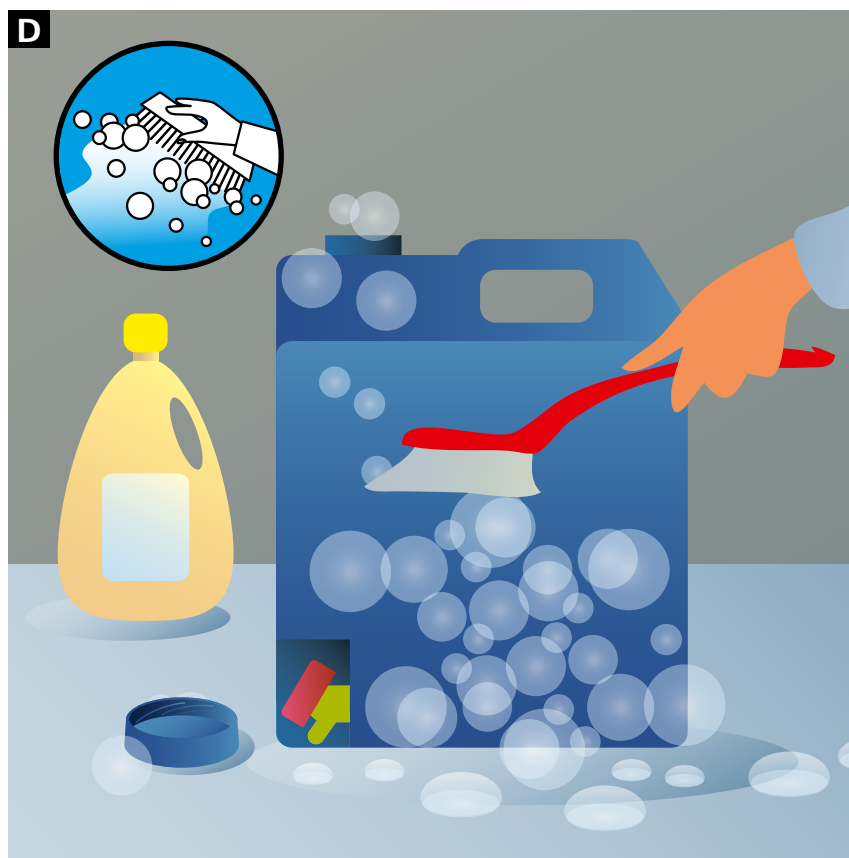
The agricultural water used for this purpose should have microbiological quality of that used for produce contact (i.e. type A agricultural water, see section "Agricultural water" page 40/45) → *E. coli* < 100 CFU/100 mL.



E. coli < 100 CFU/100 mL



D Containers used to transport and store water for hand washing should be regularly cleaned with water and detergent (at least once a week).



Hand washing

(when and how)

- A** Wash hands with soap and water:
- Before starting work;
 - After using the toilet;
 - After blowing your nose;
 - After contact with contaminated material or body fluids, including saliva, runny noses and sweat;
 - After touching animals or any waste of animal origin;
 - After eating, drinking and after breaks;
 - After smoking.



- B** Remind workers about the importance of hand washing, and how to perform a proper hand wash: use hand washing signs in local languages and/or pictures adjacent to hand wash stations, instructing people to wash their hands after each toilet visit.



Hand washing

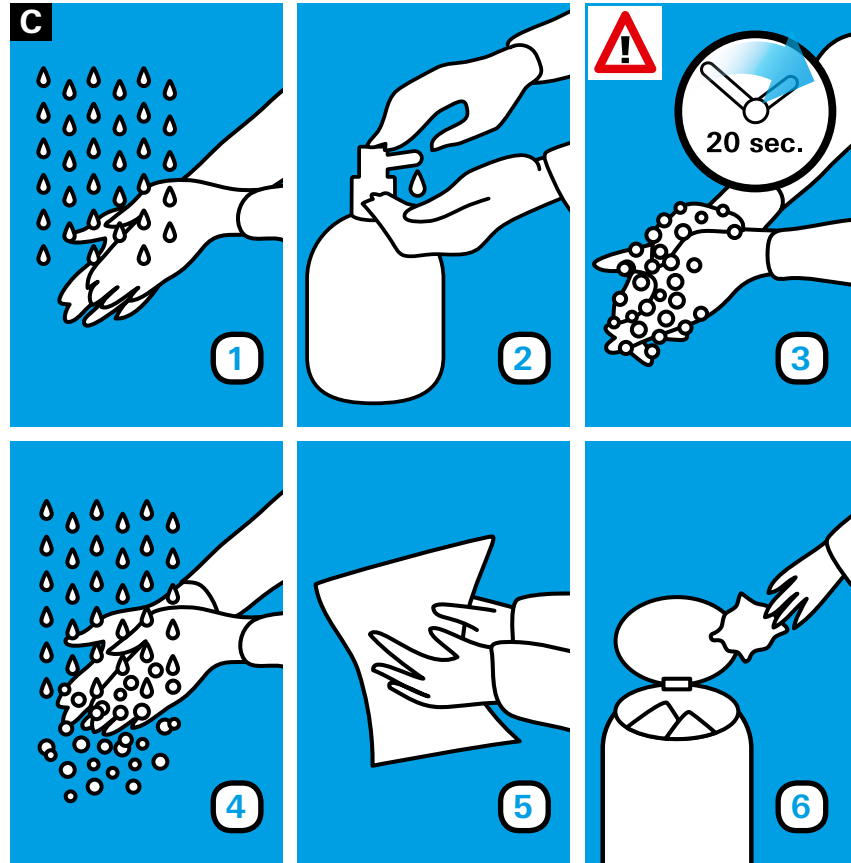
(when and how)

C Consider using signs showing the six simple steps to follow for proper hand wash:

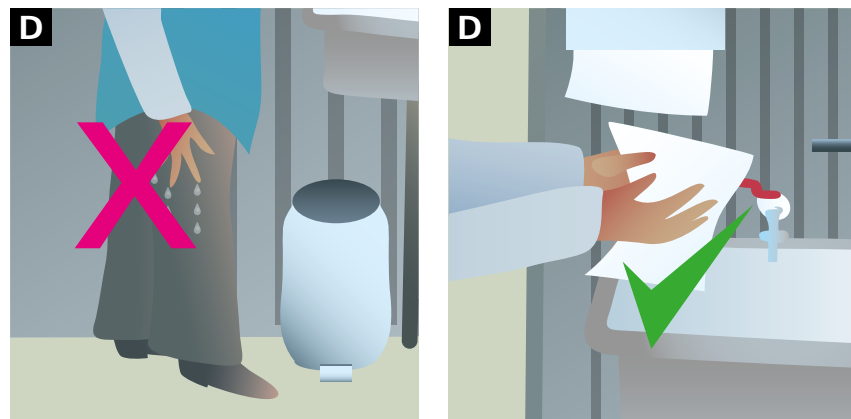
1. Wet hands with potable water
2. Apply soap
3. Scrub hands, between fingers and under fingernails, and top of your hands for at least 20 seconds –

⚠️ FRICTION and DURATION of friction are KEY to good hand washing

4. Rinse soap off thoroughly
5. Dry hands with disposable paper towels
6. Discard disposable paper towels in waste basket



D As environmental contamination on outer clothing can be transferred to wet hands, do not dry hands on pants or shirt sleeves but use disposable paper towels!



Sewage disposal

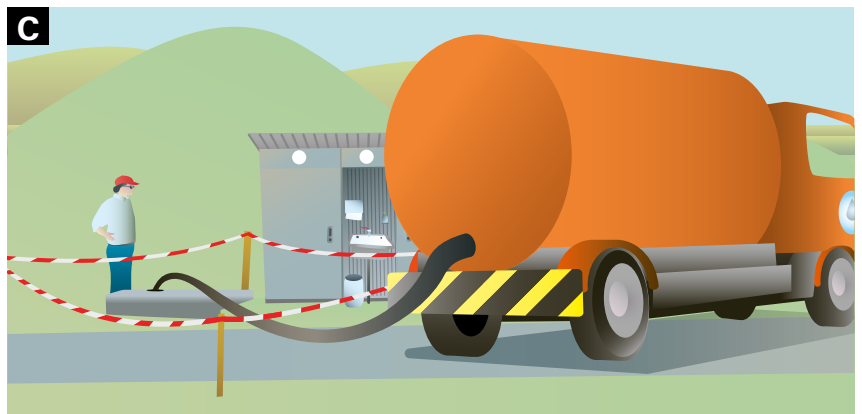
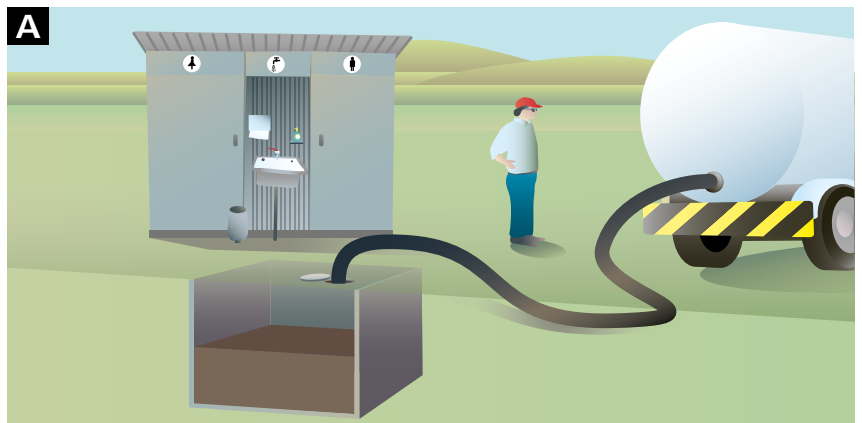
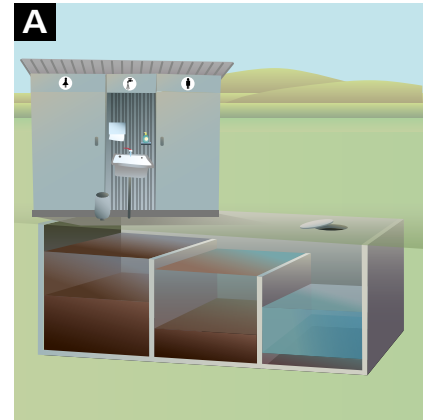
A Toilets should be connected to a sewage disposal system (either municipal sewage system or septic tank system) or a storage tank emptied through a sewage transport truck.

B Hand wash stations should be connected to a disposal system for used hand wash water (e.g. municipal sewage system or a tank that captures the water). Water captured in tanks must be discharged outside the crop production area.



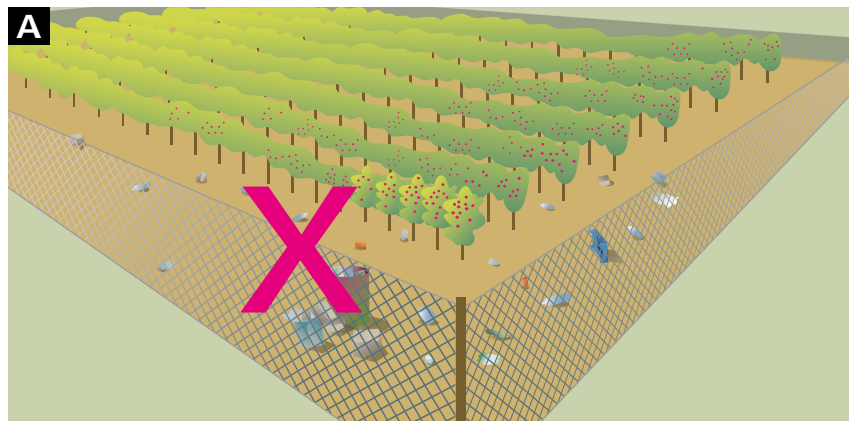
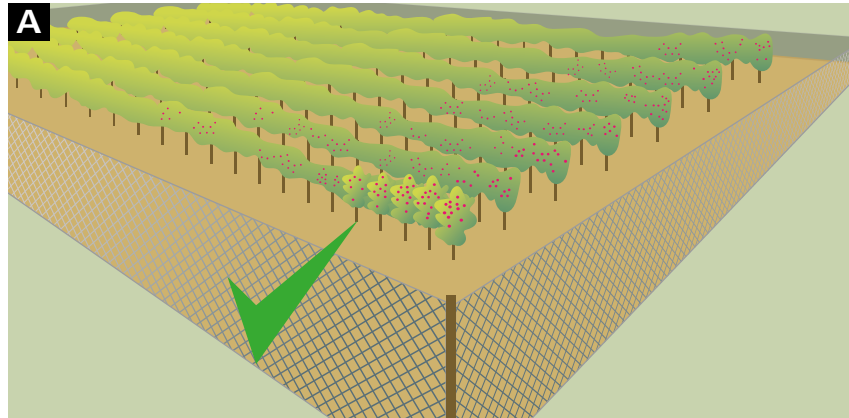
If there is no disposal system, water should at least infiltrate quickly into the soil, without any risk of run-off (e.g. hole in the soil).

C Sewage transport trucks need direct access to toilet facilities to ensure proper collection and disposal of waste. Use appropriate barriers to prevent contamination in the event of an accidental leak or spill.



Waste management

A Keep the growing field free of trash, papers, plastics and empty containers which do not belong to farm activities.



B Install covered rubbish bins in the crop production area to dispose waste and empty the rubbish bins once the working day is over. These rubbish bins should be easily accessible to workers during harvesting activities and in the crop production area.



Restrictions in growing fields and in storage areas

A Jewelry and visible body piercings are prohibited.



B Smoking, eating and drinking (other than water), chewing gum or tobacco are prohibited and are confined to designated break areas. Spitting is prohibited and workers should avoid blowing their nose, sneezing or coughing over unprotected produce.



C Children should not be present in growing fields and storage areas where produce and/or equipment are stored.

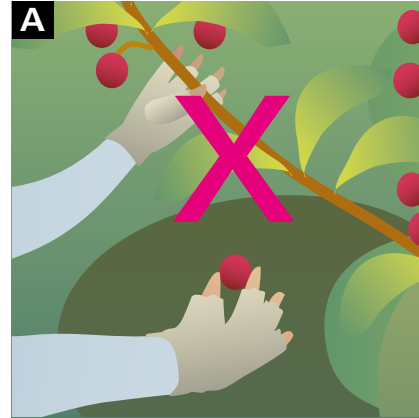
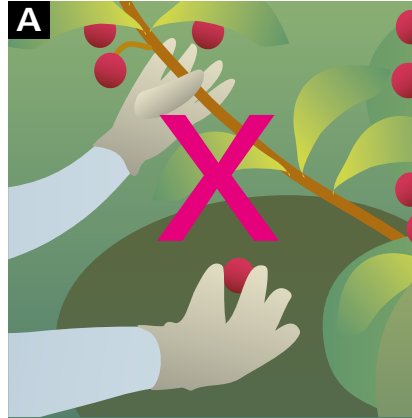


D Use signs showing restrictions.

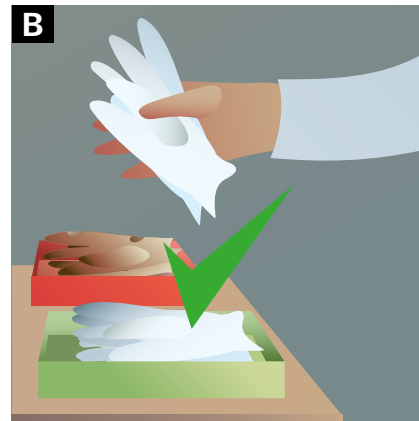
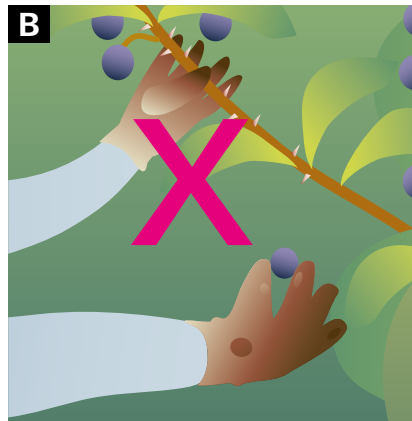



Glove policy

A The use of gloves (unexposed and exposed fingers) are mostly prohibited for harvest operations, unless otherwise stated (e.g. by regulation).



B Where gloves are considered necessary for the safety of the worker (e.g. some raspberry bushes might be thorny), clean gloves, in good repair should be provided by the farm. Gloves should be replaced when they become torn, soiled or otherwise contaminated.



 The wearing of gloves or the use of hand sanitizers does not exempt the worker from having thoroughly washed hands before putting on gloves.



C Personal gloves are prohibited. Only use gloves advised in section B.



Break area

A A clean place to store food and to eat should be provided to the workers (break area/canteen).

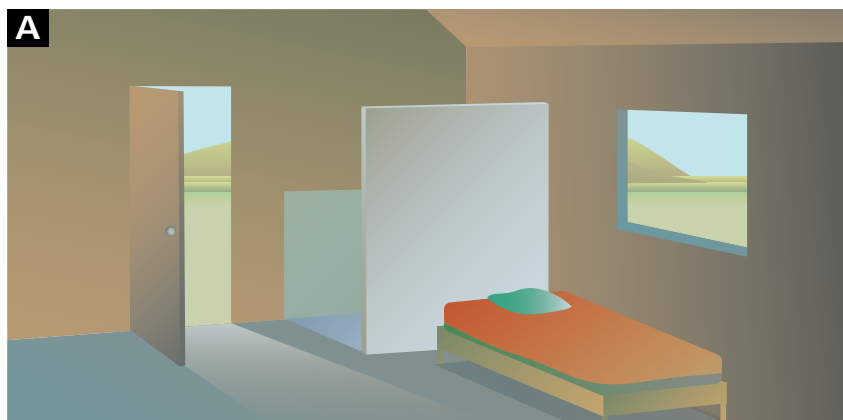


B Break areas should be designated and separated from the growing field(s) and equipment in contact with produce.



On-farm living quarters

A On-farm living quarters may be provided for workers. They should be habitable, with a sound roof, windows and doors.



B They are kept clean and have basic services of running potable water, toilets and shower.

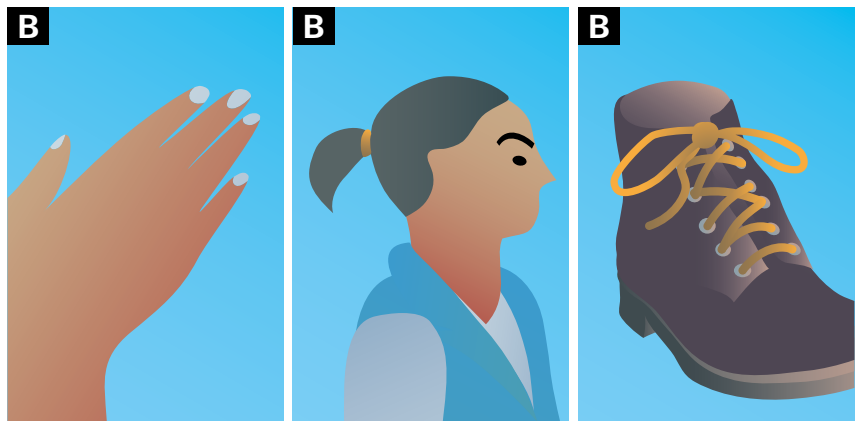


Personal hygiene and clothes

A Workers should have a shower daily and ensure clothes are clean at the start of the working day.



B Workers should have clean hands with short nails, tied hair, and no open shoes.

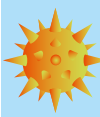


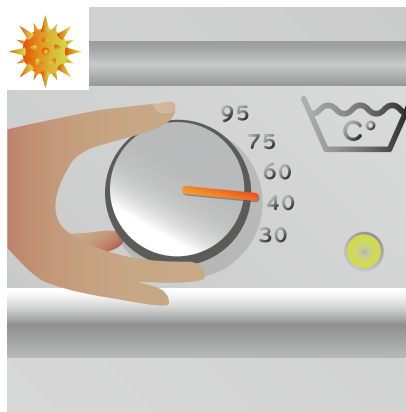
C It is advisable to use hair coverings for field workers.



D Work clothes should be washed separately from all other laundry to avoid cross-contamination.

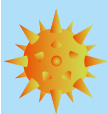


 **Conventional household washing detergents have a good virucidal efficiency at or above 40°C.**

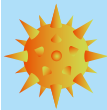


Worker illnesses and open lesions

A Farmers and workers should be familiar with typical signs and symptoms of infectious illnesses (e.g. fever, abdominal cramps, vomiting, diarrhea, jaundice and skin infections):



Fever, headache, fatigue combined with dark urine and pale in color stool, or jaundice, are indicative of Hepatitis A.



Diarrhoea and vomiting are indicative of gastroenteritis caused by infectious agents such as Norovirus or Salmonella.

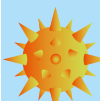


B Any worker showing symptoms of an infectious illness should not have direct or indirect contact with produce and therefore should be excluded from the crop production area.



Worker illnesses and open lesions

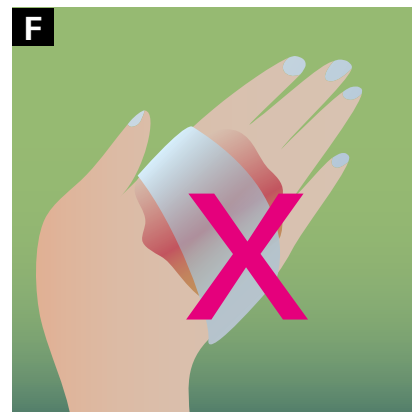
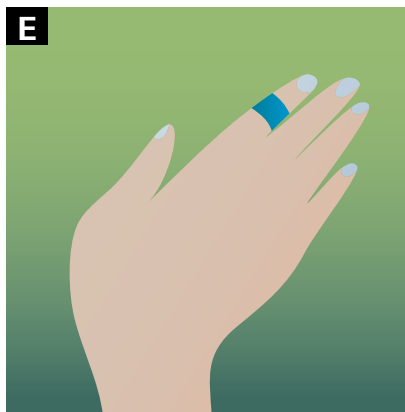
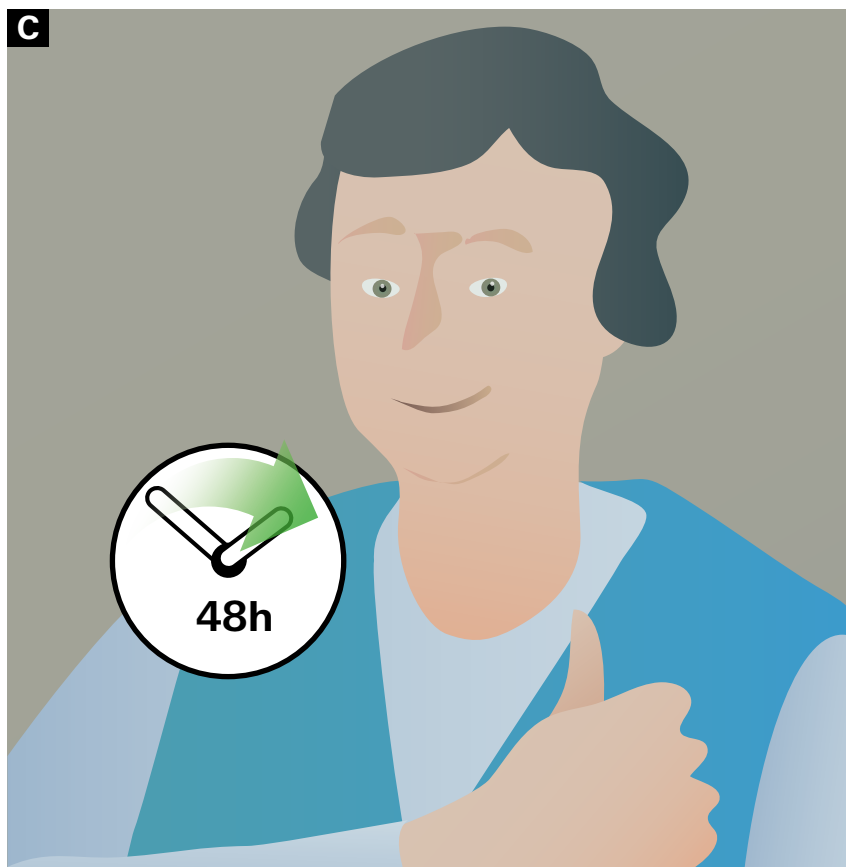
C Workers with symptoms of gastroenteritis or with symptoms of acute Hepatitis A should only be allowed to return to work 48h after disappearance of symptoms of vomiting and diarrhea and after disappearance of jaundice for hepatitis.

 **Workers can be infectious before appearance and after disappearance of symptoms, emphasizing adherence to hand hygiene at all time!**

D Workers should be instructed to report any active case of illness to their supervisor before beginning work.

E Workers can continue to work despite having minor cuts, provided they are covered with a non-permeable covering bandage or glove (in compliance with glove policy).

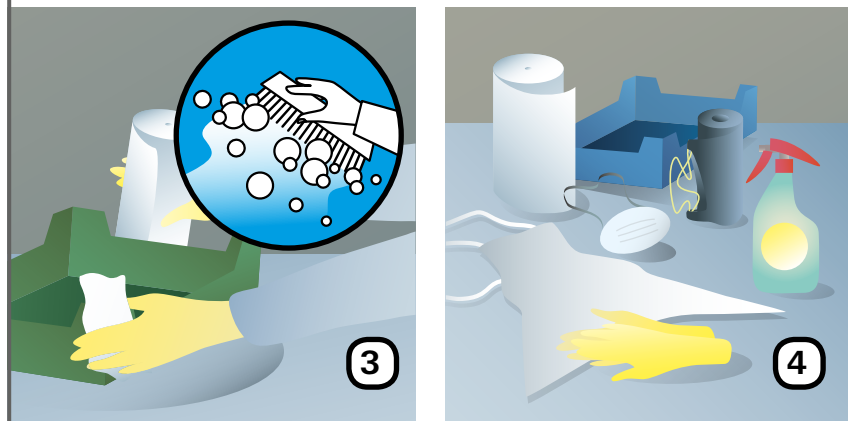
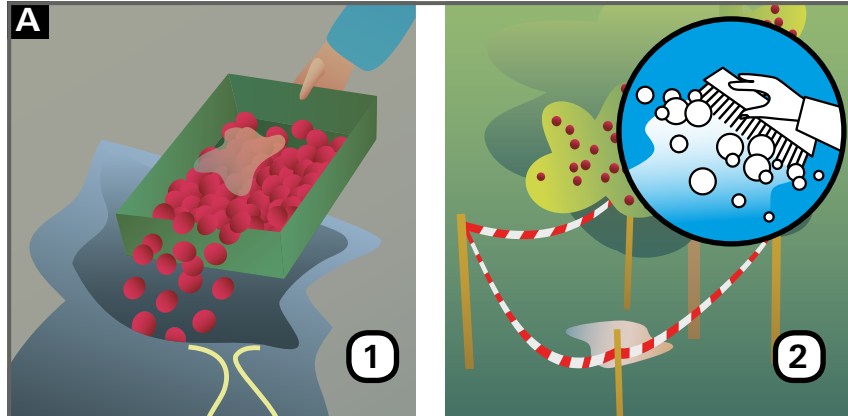
F If it is not possible to effectively cover the lesion and if the lesion is located on part of the body that might have contact with produce or harvesting equipment, the worker should not have direct contact with produce or equipment.



Body fluid policy

A If a body fluid such as vomit or blood comes in contact with produce or crop production area, the incident should be reported by the worker, recorded by the farmer, and the following protocols should be applied:

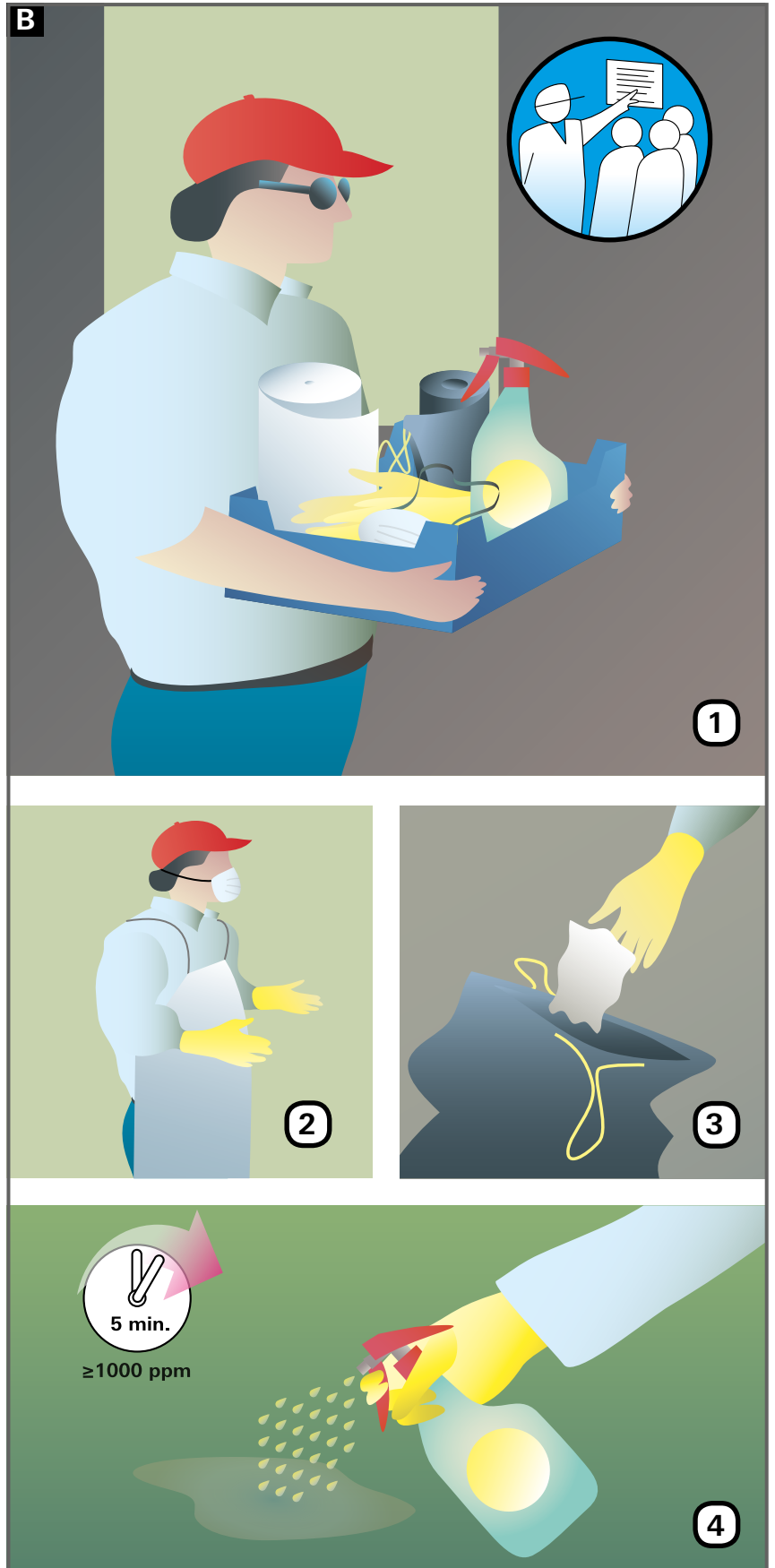
1. The contaminated produce should be segregated and disposed of;
2. The contaminated area should be confined, cleaned and disinfected immediately;
3. Contaminated equipment should be cleaned and disinfected immediately;
4. Stock of material to clean up and disinfect after spillage should be maintained (disposable paper towels, disinfectant, sealable waste bags, disposable gloves, disposable facemask, disposable apron).



Body fluid policy

B Cleaning and disinfection protocol, especially in case of a vomiting incident:

1. Cleaning and disinfection should be performed by a person trained in cleaning up infectious material;
2. Disposable gloves, a disposable facemask and a disposable apron should be worn during cleaning;
3. Wet and dry paper towels should be used to wipe up the infectious material (e.g. vomit) and transferred into a sealable waste bag;
4. The most effective disinfectant against viruses and pathogenic bacteria (if present in vomit) is a freshly prepared sodium hypochlorite solution (≥ 1000 ppm/0.01% free chlorine for at least 5 minutes).



First aid kits

A First aid kits should always be available in the vicinity of the growing field. Inspect frequently and replenish the kit as needed.



B As a minimum one worker per 20 should be trained in first aid.



Drinking water

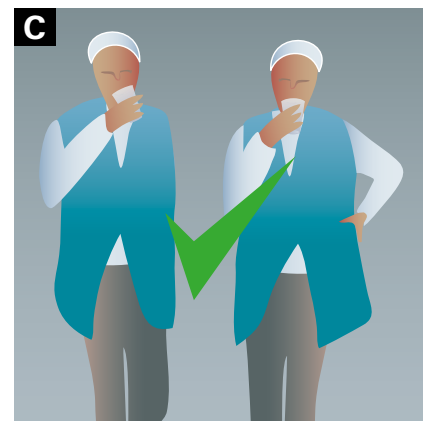
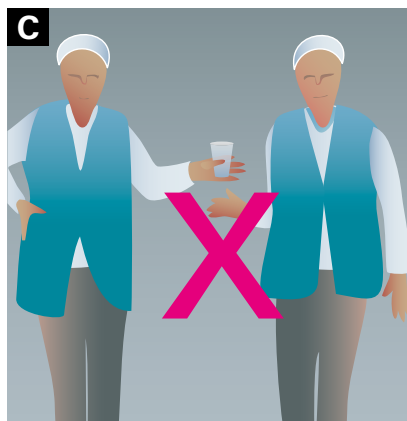
A Potable water (i.e. water that meets the microbial standard for drinking water) should be easily accessible to workers.



B If in containers, drinking water stored outside in the crop production area should be changed daily. Containers should be kept covered, rinsed before refill and regularly cleaned with water and detergent (at least once a week).

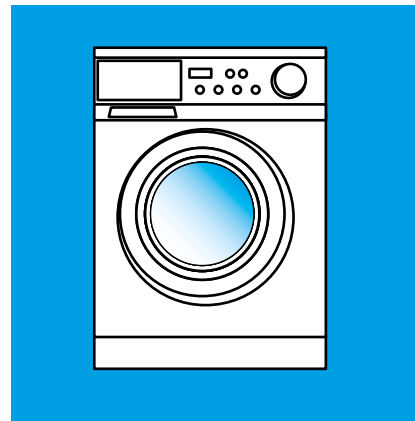
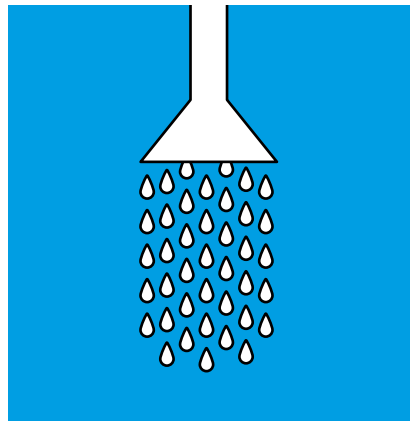
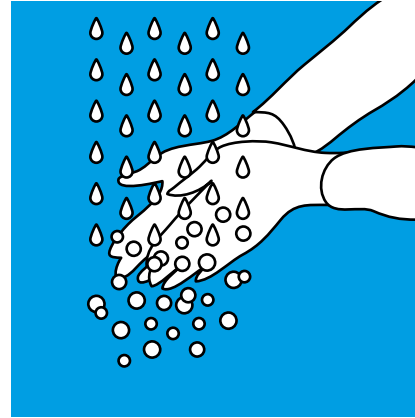
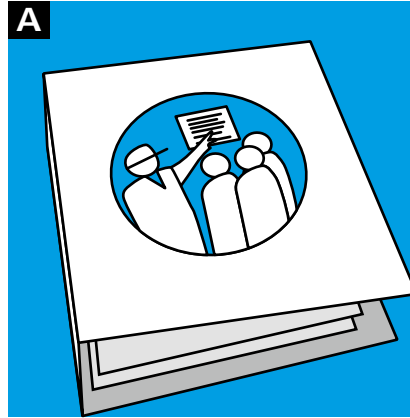


C Drinking cups (single-use) or water bottles should not be shared.



Training

A Establish/use a training program on hygiene to explain basic hygiene principles, including importance of hand washing and personal hygiene to avoid produce contamination.



The virus risk (Norovirus and Hepatitis A) should be included.



فيروس التهاب الكبدى أ (بوصفير)
Virus d'hépatite A

التعريف
هو التهاب فيروسي يسبب الحكة، ينتقل عبر الدم عن طريق الأطعمة ملوثةً ببراز شخص مصاب بالفيروس.

الأعراض
إصفرار العين، قيء وإسهال، صداع.

طرق انتقال الفيروس
أواني ملوثة، الأطعمة الملوثة، اتصال مباشر، وجميع المعدات الملوثة بالفيروس.

الوقاية
تطهير المراحيض، تعقيم المياه، غسل اليدين بالماء والصابون وتعقيمهما.



Training

B All workers should be trained on these basic hygiene principles: training should be documented (who, when, training material, trainer) and a periodic refresher should be made available.

C Competent supervisory personnel should be designated to ensure that workers follow the training requirements, such as toilet use, hand washing, restrictions in growing area etc. Competence of the designated personnel should be verified (e.g. simple test/quiz).

D If a formalized program is not practical (e.g. seasonal field personnel), the farmer should verbally instruct (especially about microbial contamination routes such as fecal material and body fluids) and demonstrate proper practices such as hand washing techniques.

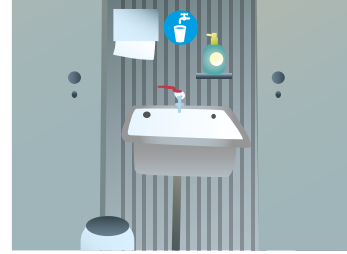


Hygiene and human health: REMEMBER!

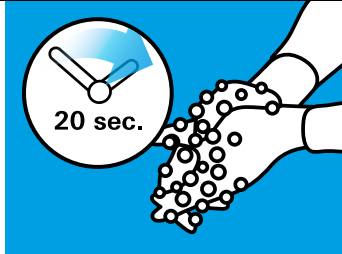
1. Provide clean toilets with toilet paper, which are connected to a sewage disposal system.



2. Provide hand wash station with soap, with either potable water or type A water, disposable towels and waste basket.



3. Wash your hands!



4. Manage waste in the crop production area.



5. Use signs to show and remind restrictions rules in the crop production area such as no eating, smoking etc...



6. Follow good personal hygiene practices and do not work in the crop production area if you have symptoms of illnesses!



7. Implement a cleaning and disinfection procedure in the event of a body fluid incident such as vomiting.



8. Train workers! (on hygiene, risk from illnesses, cleaning procedures...).



6. Worker harvesting practices



Hand harvesting practices

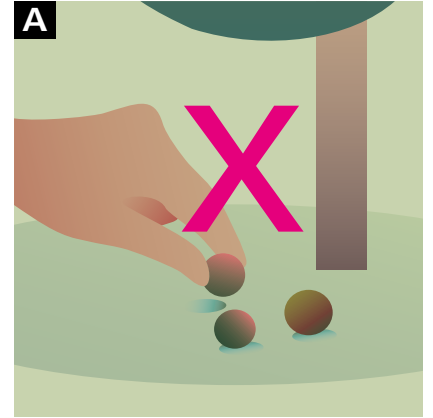
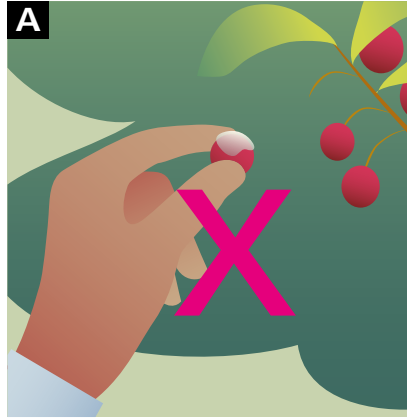
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Workers instructions and supervision

83

Hand harvesting practices

A Do not pick berries that have signs of contamination (e.g. bird droppings or moulds) or that have fallen on the ground.



B Avoid overfilling your hands, do not squeeze or roll the fruits.



C Keep harvesting containers off the ground e.g. use a trolley, put an extra empty crate at the bottom of the pile or use a clean piece of tarpaulin or plastic.

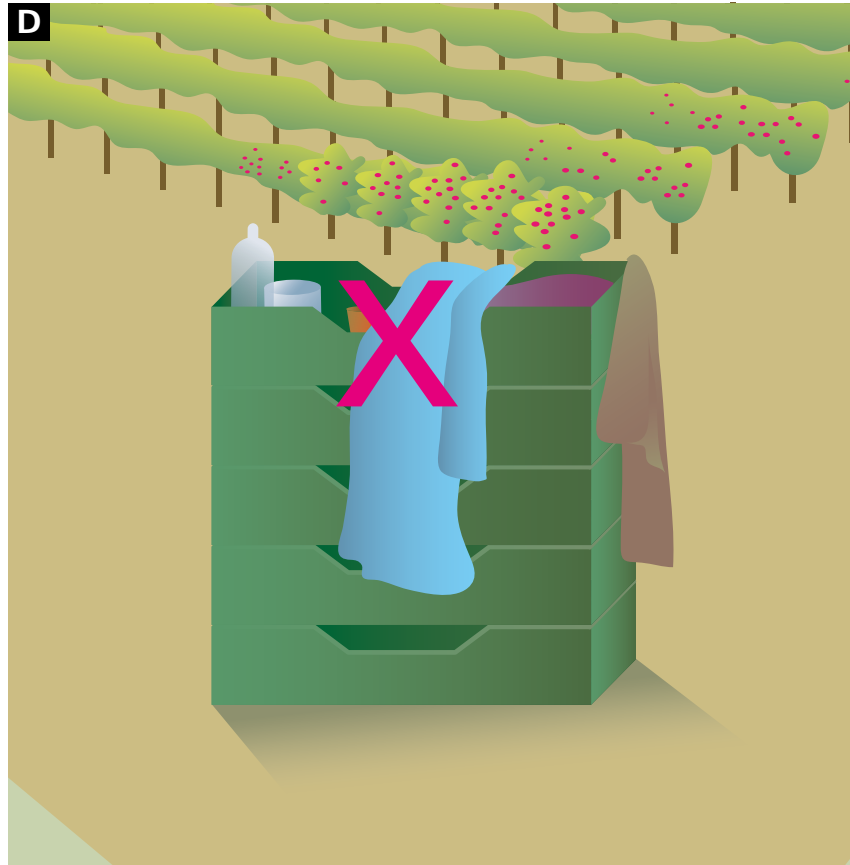


Hand harvesting practices

D Do not use harvesting containers for other purposes than harvesting (unless clearly marked or labeled for that purpose). Instruct workers not to use harvesting containers to carry their food, tools or clothing or any other non-produce item.



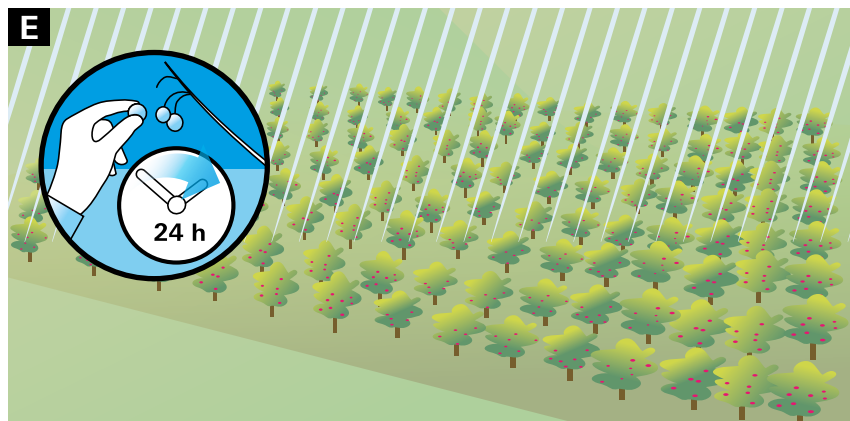
Harvesting containers should be made of material which can be easily cleaned such as plastic. Do not use wood containers.



E It is advisable to wait 24 hours after a rain to harvest non-covered berries which are grown on soil (e.g. strawberries).



If berries have come into contact with floodwater, record the incident. Further use should be discussed with your berries purchaser, according to the extent of the flooding. In the event of a severe flooding with berries submerged, these berries should not be harvested.



Workers instructions and supervision

A Hand pickers are trained on hand harvesting practices (see previous section, A to D).



B A competent person should supervise hand pickers at all time.




Worker harvesting practices: REMEMBER!

1. Keep harvesting containers off the ground and do not use them for other purposes.



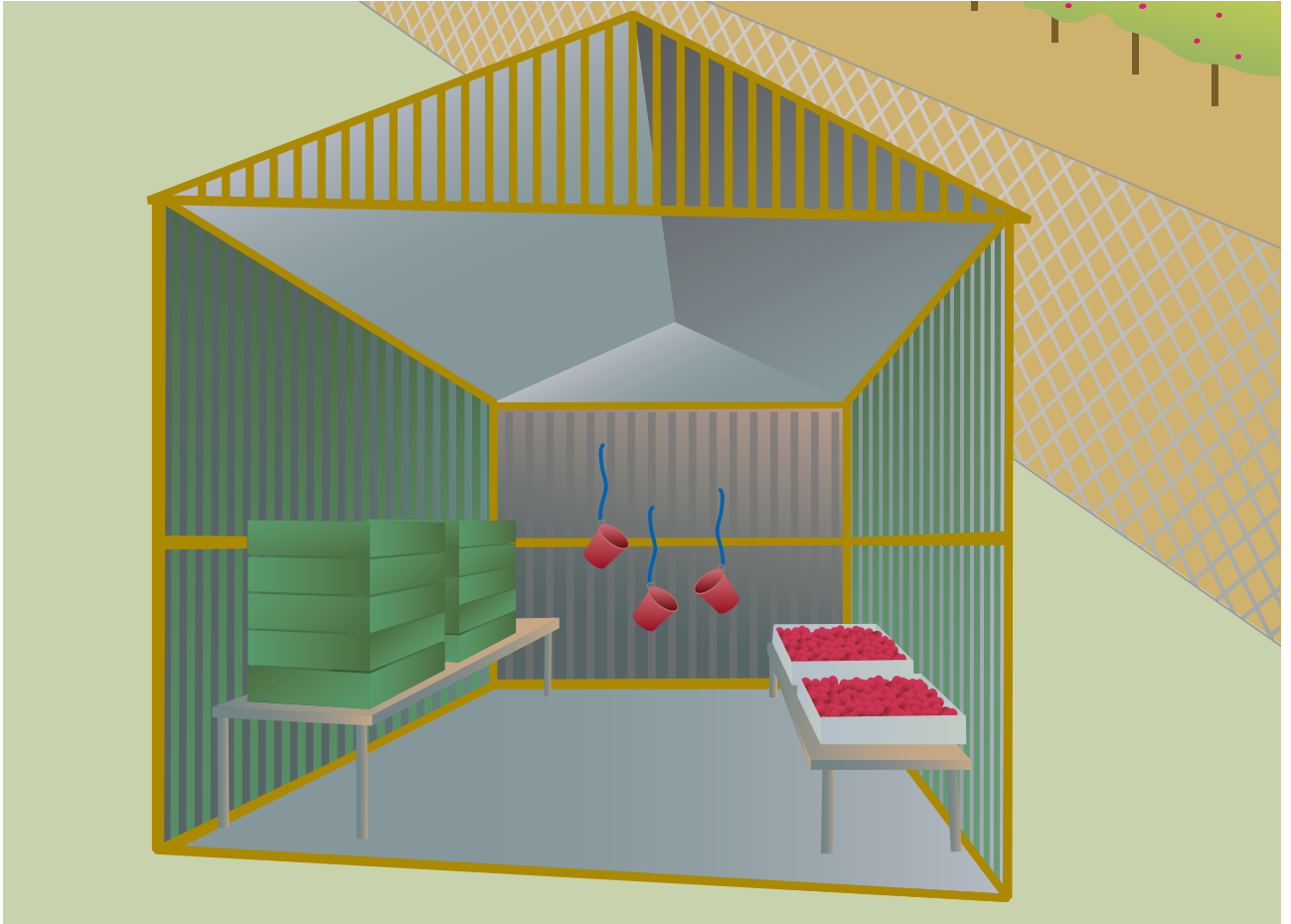
2. Train workers on hand harvesting practices e.g. do not pick berries that have signs of contamination.



 In the event of a severe flooding with berries submerged, these berries should not be harvested.



7. Harvesting equipment, storage areas and transportation



Best practices for cleaning	87
Harvesting containers, utensils/tools and harvesting machines	89
Storage areas	91
Transportation from crop production area to processing plant	93

Best practices for cleaning (harvesting containers, utensils/tools, harvesting machines, storage areas and transportation vehicles)

A Best practices for cleaning include 3 steps:

1. Rinse the surface so that any obvious dirt and debris are removed;
2. Apply an appropriate detergent and scrub the surface;
3. Rinse the surface.

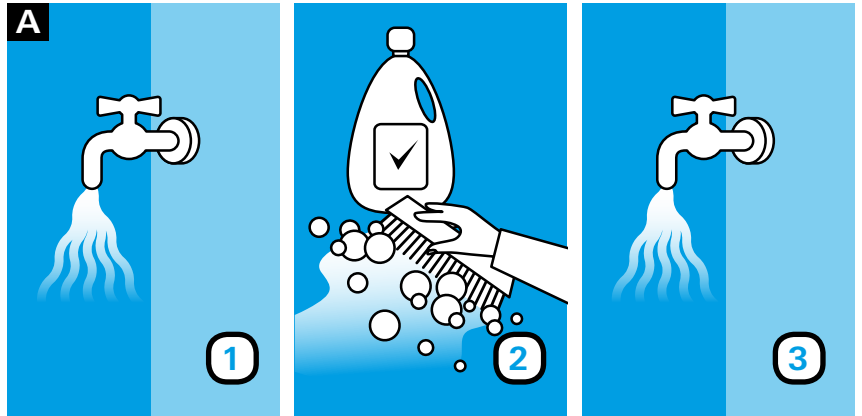


Water quality should be potable water (absence of *E. coli* in 100 mL).

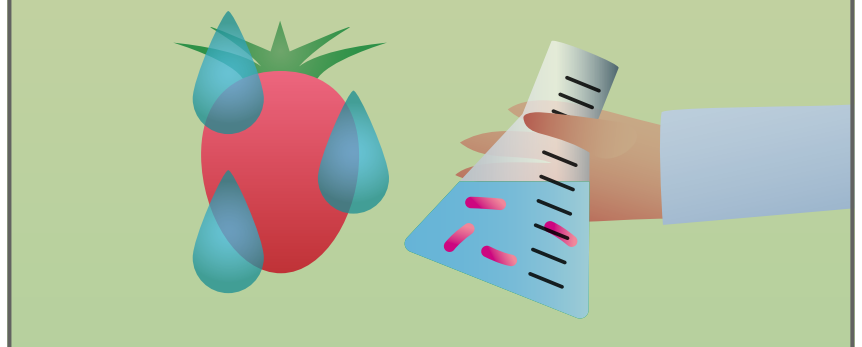
If not possible to use potable water, water should have microbiological quality of that used for produce contact (Type A water) with adequate testing regime (see chapter on Agricultural water, Table 2, page 52–53).

B When sanitization is practicable and recommended, apply an appropriate sanitizer (approved biocide for the food industry). If the sanitizer requires a final rinse, this will require an extra step. Let the surface air dry.

Contact your berry purchaser if you need some recommendations on which detergent and/or sanitizers to use.



TYPE A water

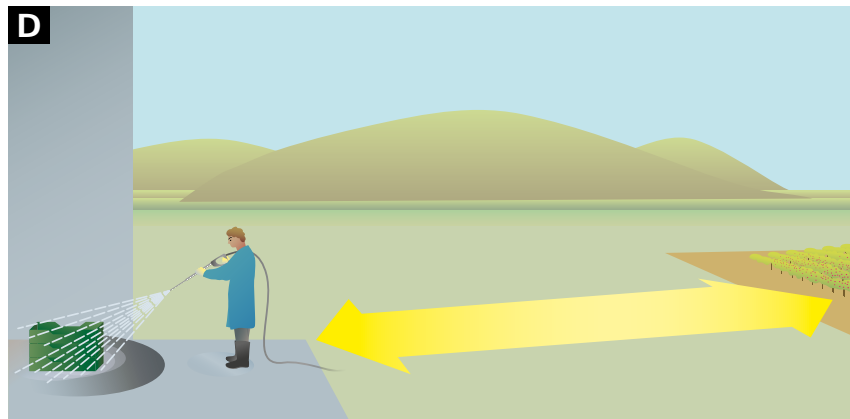


Best practices for cleaning (harvesting containers, utensils/tools, harvesting machines, storage area and transportation vehicles)

C For materials/surfaces that cannot be cleaned with water (e.g. compact soil ground in a storage area), thoroughly dry clean with e.g. a brush or a broom. If possible, you can also use a minimum amount of water and detergent (e.g. with a wipe) and dry.



D All cleaning (and sanitizing) activities are conducted away from produce to reduce the potential for contamination.



Harvesting containers, utensils/tools and harvesting machines

A Before use, keep harvesting containers off the floor or ground (e.g. on pallets, carts or shelves) in a sufficiently contained area.



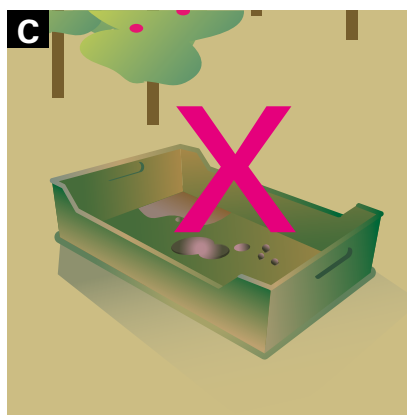
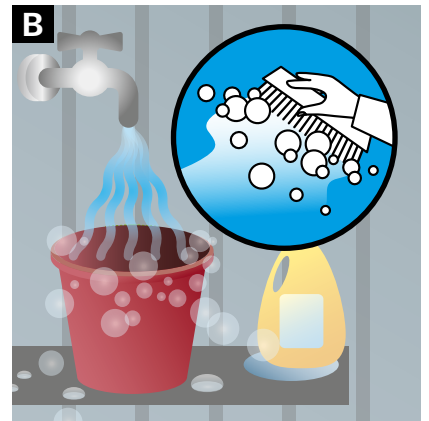
If they are stored outside without being properly protected, they have to be cleaned and sanitized before being used.

B Clean all harvesting containers and utensils/tools that come in contact with berries (e.g. baskets, crates) regularly during the harvesting season. Baskets belonging to the farmers should be cleaned daily, crates should be cleaned after each delivery to the processing plant.



After cleaning, sanitizer can be applied if practical (e.g. to crates at the processing plant which are under the berry purchasers responsibility).

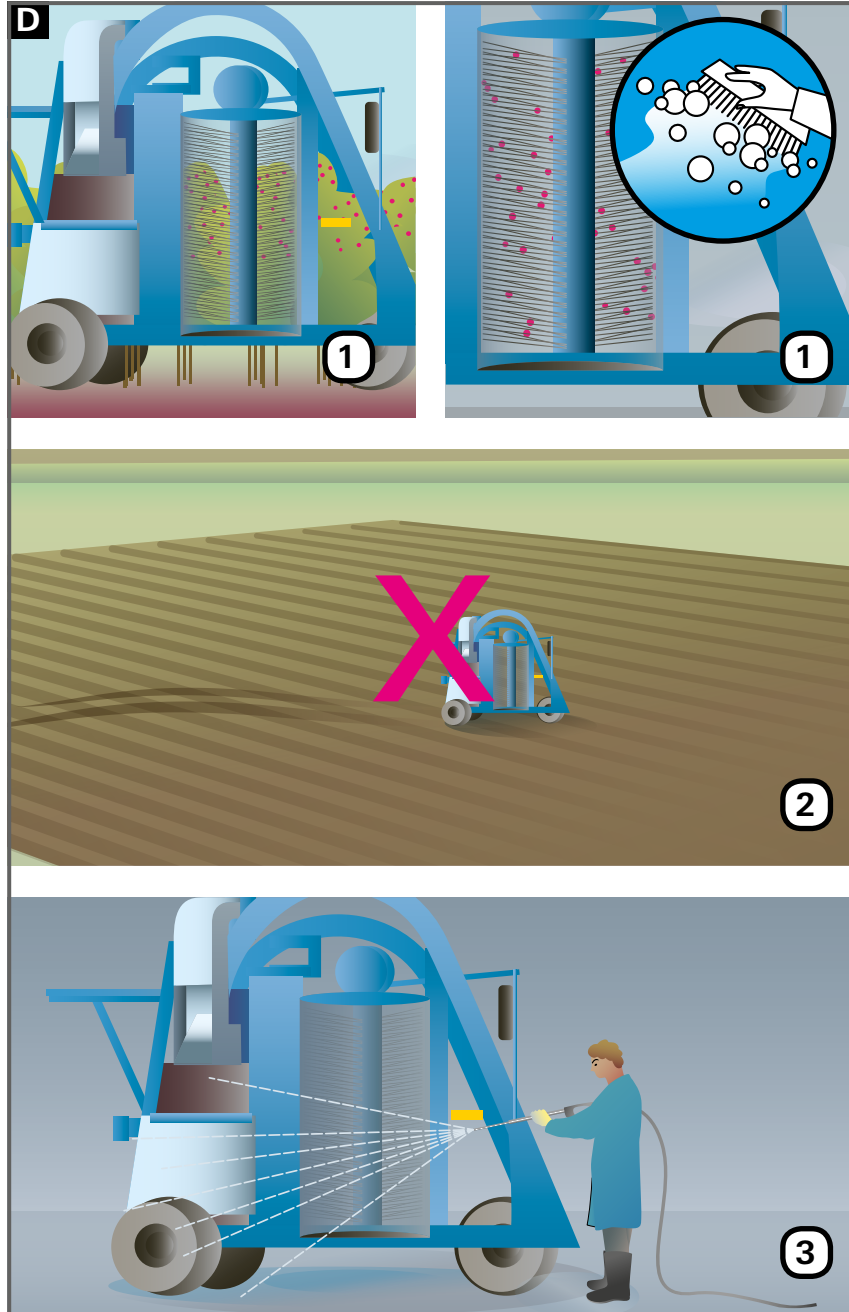
C Do not use harvesting containers which have not been properly cleaned.



Harvesting containers, utensils/tools and harvesting machines

D When machines are used in the harvesting process (i.e. mechanical harvesting):

1. Clean all machine surfaces that have been in contact with berries between consecutive harvests.
2. Avoid moving these machines across fields where raw manure or compost was applied.
3. Clean them completely when needed and at the end of the season (e.g. if the machine runs over an area with heavy animal intrusion or faecal deposits).



Storage areas

For on-farm storage areas where berries are stored for no longer than 12 hours

A Storage areas should be sufficiently contained (roof, door, walls or at least a net!) to protect berries and harvesting equipment from external contamination (e.g. from pest animals).



B Storage areas should be cleaned at the beginning of the harvesting season and maintained clean and in an orderly manner during season (free of litter, debris, standing water and mould growth, in and around the storage area). Cleaning should not be performed in the presence of stored berries.



To prevent contamination from pest animals, the focus should be on exclusion and restriction measures, such as described in A and B.



Storage areas

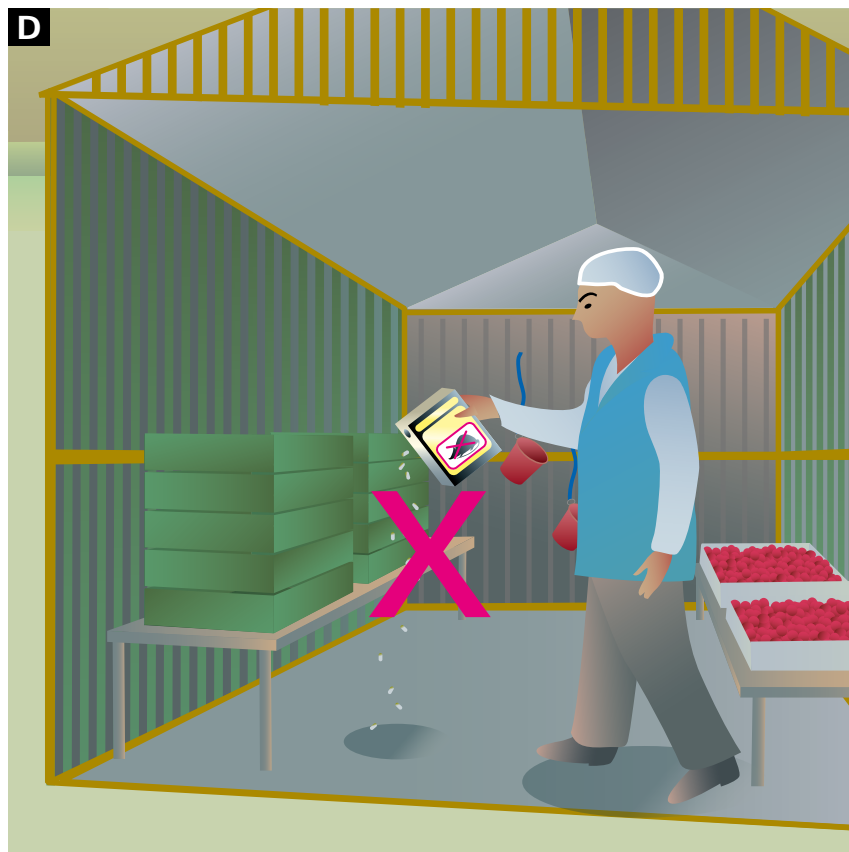
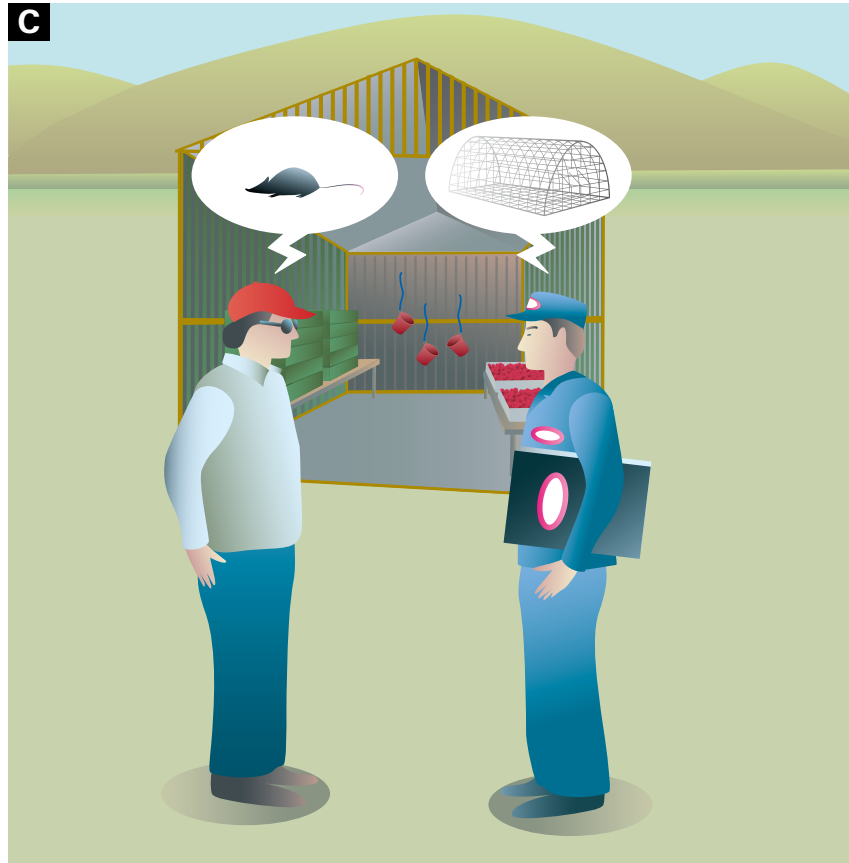
For on-farm storage areas where berries are stored for no longer than 12 hours

C If the above restriction measures are not effective enough to control pest animals in storage areas, traps may be used. These traps must be legal in the country of use and live traps (i.e. no killing) should be favored if possible.



A competent professional should be consulted to ensure the legality and design of the trap, so that the correct species is targeted. If you do not know whom to contact, discuss with your berries purchaser first.

D Do not use rodenticides in storage area unless they are needed to control an infestation and are legally permitted. As for traps, a competent professional should be consulted to ensure correct, safe and effective use.



Transportation from crop production area to processing plant

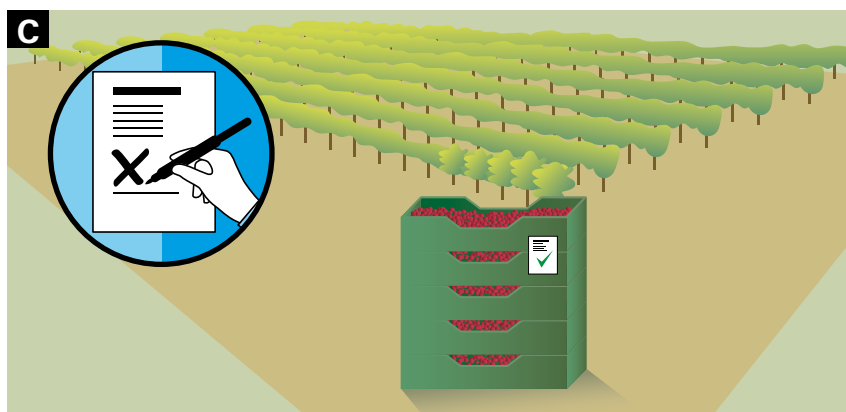
A Transportation vehicles used to move produce from crop production area to processing plant should be cleaned (and sanitized if practicable) at the beginning of the harvesting season and then as much as needed afterwards.



They should be in good repair and not be used to transport non-food products (e.g. fertilizers, pesticides...).

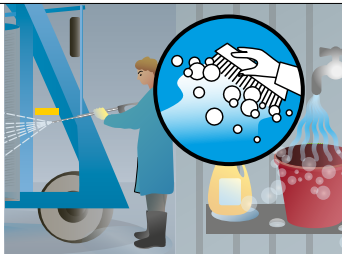
B If the transportation vehicle is not closed, use covering such as tarpaulin to protect berries during transport.

C Label produce moving out of the field to enable traceability.

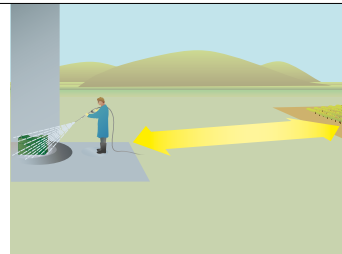


Harvesting equipment, storage areas and transportation: REMEMBER!

1. Perform cleaning of harvesting equipment, utensils/tools in contact with produce, storage areas and transportation vehicles.



2. Conduct these cleaning (and sanitizing) activities away from produce to reduce the potential for contamination.



3. Before use, keep harvesting containers off the floor or ground in a sufficiently contained area.



4. Produce storage areas should be sufficiently contained to protect berries from external contamination (e.g. from pest animals).



5. Use transportation vehicles which are closed or at least with a covering such as tarpaulin.



Records and Documents



Records

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Documents

99

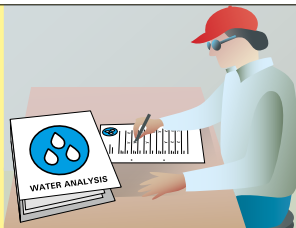
Records

These are recommendations of important records and documents to be kept. Those of highest importance are highlighted in yellow boxes.

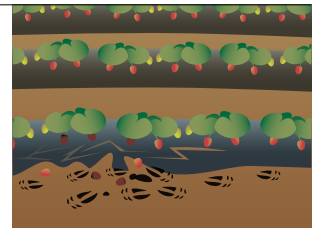


Records are important to show an action is taken (e.g. regular cleaning of toilets). Therefore, the following actions/data should be recorded and a person should be responsible to maintain the records in a timely manner. Records should include the date, person responsible and procedure/document used when applicable, e.g. for a training: record who followed the training, when, who performed the training and which document/training material was used (reference, title...).

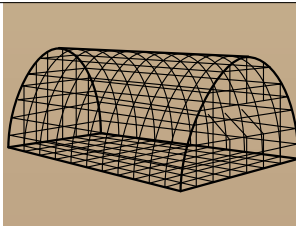
A Microbiological water analyses results (*E. coli* in 100 mL) from the laboratory.



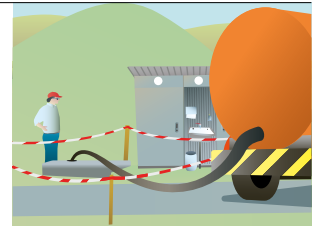
B Intrusion of animal in the growing field (when, which animal, where) and corrective actions taken.



C Pest management: if traps are used in the crop production area, records of inspections and animal found.



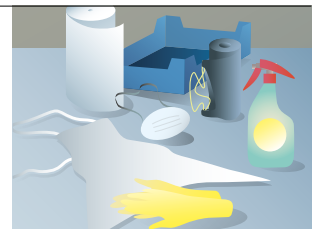
D Sewage disposal (e.g. by a sewage transport truck).



E Workers training on good hygiene practices: list of workers who followed the training.



F Workers training on cleaning and disinfection of infectious material: list of workers who followed the training.



G Worker illnesses (date of exclusion from crop production area and date of return).



H Body fluid event (when, who, where...) and corrective actions taken.



Records

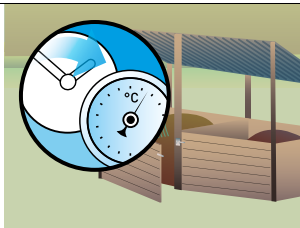
I Free chlorine level monitoring, if water is chlorinated at farm due to *E.coli* ≥ 100 CFU/100 mL.



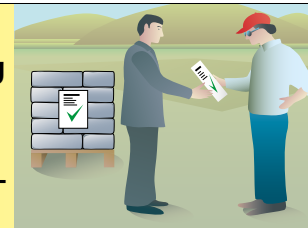
J Manure application.



K Composting process temperature, time and number of turnings (for on-farm composting).



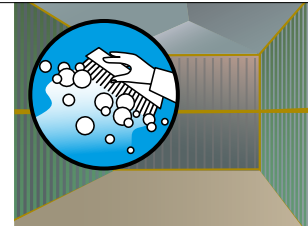
L Validation results of the composting process (on-farm composting) or certificate of compliance (compost from supplier).



M Cleaning of toilets.



N Cleaning (and sanitizing) of storage areas.



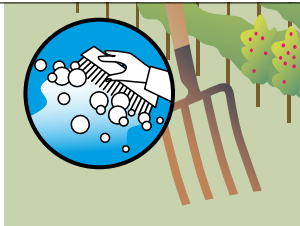
O Cleaning (and sanitizing) of transportation vehicles.



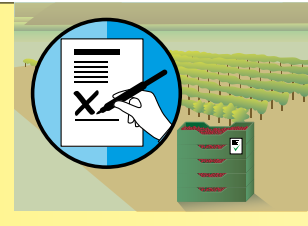
P Cleaning (and sanitizing) of harvesting equipment (harvesting containers, harvesting machines...).



Q Cleaning and sanitizing of tools and utensils used for both composting and berry activities and/or for both animal and berry activities.



R Labelling of produce moving from the field to the processing plant (i.e. unique ID number).



Documents



Documents are important to show conformance to a requirement.

A Training material on good hygiene practices (i.e. content of the training).



B Restrictions in crop production area (training material or signs).



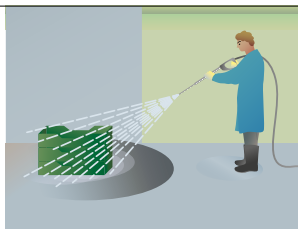
C Procedure for cleaning and disinfection of infectious material (training material, poster...).



D Training material (e.g. pictures) showing harvesting practices (i.e. not pick berries that have signs of contamination).



E Procedure for cleaning (and sanitizing) of harvesting equipment, storage areas and transportation vehicles.



Think about foreign bodies!

This reminder is not linked to microbial contamination, but...

From produce harvesting to transportation to processing plant, the risk of foreign bodies should be minimized, e.g.:

- Damaged crates/buckets/tools should be properly repaired or disposed of.
- Storage areas for harvested berries and harvesting container as well as transportation vehicles are maintained and inspected to not be a source of foreign bodies (e.g. glass, metal, stones and wood).



