

Disinfection and decontamination

Revision history

Version	Date issued	Amendment Details	
		Section(s)	Details
1.0	5 Dec 2013	All	Reformatted from Appendix 3 of PLANTPLAN (V1.0 Nov 2011). Original document separated into two Guidelines. Internal references to Appendices in PLANTPLAN removed.
2.0	1 Dec 2015	All	V1.0 (Dec 2013) reviewed by the Subcommittee on National Plant Health Surveillance (SNPHS). Approved by SNPHS August 2015. Endorsed by Parties November 2015.

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1. Introduction

The purpose of these guidelines is to assist diagnosticians and surveillance field officers to safely and appropriately disinfect and decontaminate equipment and personal items in contact with suspect Emergency Plant Pests (EPPs). Please note that this document covers general information on disinfection and decontamination principles and that specific operating procedures will need to be developed to ensure that disinfection and decontamination methodology, chemical use and general hygiene methods are relevant to the suspect EPP, host crop and risks associated with a particular activity.

2. Critical issues

There are a number of critical considerations that must be taken into account to achieve effective disinfection and decontamination of equipment and personal items when dealing with suspect EPPs:

- Appropriate use, decontamination and disinfection of personal protective equipment (PPE) and other resources/equipment.
- Containment/packaging procedures for samples and disposal methods for infected material.
- Use of the appropriate disinfectant for the particular suspect EPP.

- Safety procedures for the use of chemicals:
 - All disinfectants applied to skin must be safe for use on skin/registered for this purpose and used in accordance with directions.
 - Any disinfectants used must also have inhalant risk assessments carried out.
 - Safety Data Sheets for specific disinfectants should be referred to.
- Resources taken into a contaminated area must only be those that are necessary to perform duties and/or can be disinfected after use. Cameras/mobile phones etc. can be placed in a zip-lock bag where the item can still be used without removing and the container can be disinfected.
- Decontamination procedures for leaving the site including the following considerations:
 - Set up the decontamination site prior to entering the property. Do not re-enter a vehicle or the clean area until decontaminated adequately/decontamination process completed. Work Health and Safety, PPE and decontamination must be implemented according to risk and in accordance with local instructions.
 - Park all vehicles out of the contamination zone where possible. If this is not possible, alternatives must be investigated prior to the activity so to minimise risk of contamination/spread, e.g. wash-down facilities on the site.
 - Drainage and disposal of contaminated waste water and/or chemicals for each site.
- Training of personnel in disinfection and decontamination procedures prior to visiting the site.

3. Hygiene and disinfection

The following hygiene and disinfection elements should be taken into consideration prior to and during work on the site:

- Select and set up a personal decontamination site in the 'clean area' bordering the 'dirty area' before entering the property. It must allow staff to be able to exit without re-entering a contaminated or potentially contaminated area.
- A line can be used to mark the 'clean area' and the potentially 'contaminated/dirty area'. Use a tarp in the 'clean area' to place equipment on. Position equipment for:
 1. Entry,
 2. Use on the 'dirty side' (including spare gloves, boot covers etc.), and
 3. Use on exit.
- Ensure disinfectants and equipment for personal decontamination are ready for use before entering the contaminated area. A scrub tub (which must be an appropriate size and depth to enable personnel to stand in) filled with an approved cleaning solution diluted with water as per manufacturer's instructions and approved chemical spray bottles must be prepared and ready to use, as well as brushes and wipes etc, and soap and water appropriate for skin. Some disinfectants can pose inhalant risks so appropriate risk assessments must also be carried out.

3.1 Personal protective equipment

Appropriate use of PPE is critical to prevent spread of EPPs between contaminated and non-contaminated sites. Procedures should be developed for decontamination, disinfection and disposal of PPE that are relevant to the suspect EPP, and personnel should be trained in their use. Consideration should be given to the following points:

- Disposable overalls and gloves should be worn when sampling infected material on site. Boot covers or cleanable rubber boots are advisable. Put on protective clothing in the 'clean area' before entry.
- Some equipment, such as boot covers and disposable gloves may wear quickly. Therefore it may be appropriate to wear two pairs and take a spare into the 'dirty area', if needed.
- PPE should be properly worn, ensuring all hair is covered and overalls, gloves, boot covers are sealed/held in place with duct tape.
- Once sampling is complete, remove all contaminated items and clean or double bag them prior to leaving the decontamination site. When removing PPE; where possible the gloves, overalls, boot covers etc. should be carefully rolled back, turning them inside-out.
- All disposable items (gloves, head covers, boot covers, overalls) should be double bagged and disposed of as per quarantine requirements. When double-bagging, each bag needs to be decontaminated after sealing.
- Footwear should be either removed and bagged, or thoroughly cleaned and disinfected before leaving the property.
- Scrub soil off the base of footwear before stepping into a disinfection bath containing an appropriate disinfectant (e.g. Virkon, chlorine solution, Phytoclean).
- Disinfect hands and exposed areas, then wash hands, face and disinfected skin in clean water with detergent or soap.

3.2 Portable equipment

All equipment that is brought onto the site must be decontaminated and disinfected according to appropriate procedures. The following points should be considered:

- Ensure that soil, plant material and other large contaminants are removed in the decontamination process, prior to disinfection.
- Disinfect implements immediately after use with an appropriate disinfectant (e.g. Virkon, Phytoclean, 80% v/v ethanol or 0.5% v/v available chlorine solution), as appropriate. Ensure an appropriate contact time to achieve required disinfection.
- Equipment will ideally be disinfected on-site; however if this is not possible then it must be securely bagged for later disinfection before leaving the property. When double-bagging, disinfect each bag after sealing.

3.3 Samples

Samples should be managed in accordance with the *Collection of suspect Emergency Plant Pests* guidelines and *Transport of suspect Emergency Plant Pests* guidelines. Consideration should be given to the following:

- All samples should be securely packaged as required, with at least one layer of suitable packaging applied in the contamination zone.
- The samples packaged within the contamination zone should be sealed and decontaminated, adding the next layer of packaging when in the decontamination area.
- Samples should be labelled with a marker as appropriate. Be aware that if they are marked on external bags, some cleaning solutions will remove the markings in the decontamination process, so the internal bag/container should be marked.

4. Large equipment and vehicles

Large equipment and vehicles must be decontaminated prior to leaving a site that is known to be contaminated with a suspect EPP. As this requires a significant commitment of resources and time, it will be important to consider deployment of the equipment in the first place.

Nationally agreed Standard Operating Procedures (SOP) from Animal Health Committee are available on the following website and provide additional information on decontamination of large equipment and vehicles:

www.animalhealthaustralia.com.au/programs/emergency-animal-disease-preparedness/nasops/

5. Resources/equipment

The standard kit includes equipment that may be required for the investigation of a suspect EPP and includes relevant equipment to ensure appropriate decontamination and disinfection:

- ground sheet/tarp
- disposable overalls
- waterproof footwear e.g. gumboots
- boot covers (if required)
- suitable, sturdy plastic bags for waste/contaminated items of appropriate sizes
- clear sealable plastic bags for paperwork and other small items such as camera/mobile phone
- disposable gloves: latex (non-chemical resistant), nitrile or/and chemical resistant (nitrile is advisable as are generally stronger and pose less allergen risk)
- chemical resistant gloves
- duct tape
- suitable respiratory protection
- eye protection (for sun protection and/or chemical use)
- ear protection
- sun protection – cleanable hat, sunscreen
- drinking water
- disinfectant suitable for the PPE, as necessary
- buckets, at least 10L each
- foot bath, large enough to stand in and fracture resistant
- tools for cleaning boots, e.g. brush, hoof pick etc
- plastic scrubbing brush and nail brush
- hand-held spraying bottles
- water, minimum 20L (10L containers)
- disinfectants specific for the potential pest
- measuring jug
- soap and/or detergent
- disposable towels

- wipes
- paper towel
- face and hand wash bowl
- sampling equipment
- sample bottles and sealable bags
- labels
- secateurs
- waterproof markers
- scissors
- signage (if required)
- cordoning tape (if required)
- camera/mobile phone
- data collection documents and equipment such as pens etc (if required)
- cable ties, or similar
- first aid kit
- authorised inspector identification card
- appropriate Standard Operating Procedure for the pest
- GPS device
- insect spray – e.g. quick knockdown action.