

# KPCS Best Practice Fact Sheet

## Disposal

### Background

Movement of plant material presents one of the greatest risks of spreading pests and diseases. Plant material that is potentially infected or contaminated with pests or diseases presents an elevated risk and must be disposed of correctly to avoid exposure to other plants within the nursery or to other kiwifruit operations.

### Scope

This factsheet provides nurseries with best practice guidance on methods for decontaminating and disposing of clothing, containers and plant material that have been exposed or contaminated with pests or diseases.

### 1. Treatment and disposal options

Options for suitable treatment of contaminated items are indicated in the table below. Further details on each of the treatment options are provided in Section 2.

Contaminated Item	Treatment and disposal options					
	Controlled burial on site	Burning	Soaking in bleach / sanitiser, then washing or disposal.	Autoclaving or heat treatment	Containment followed by burial by third party	Mulch on site
Gloves, booties, hairnets and clothing	✓	✓	✓	✓	✓	✗
Sample bags and disposable containers	✓	✓	✗	✓	✓	✗
Trimmings and spent potting mix	✓	✓	✗	✗	✓	✗
Leaf samples (from nutrient analysis etc.)	✓	✓	✗	✓	✓	✗
Fruit leftover from seed extraction	✓	✗	✗	✗	✓	✗
Plants and plant material	✓	✓	✗	✓	✓ (non-infected material only)	✓
Debris (from plant containers, sweepings etc.)	✓	✓	✗	✓	✓	✗

## 2. Explanation of treatment and disposal options

### Controlled burial—preferred disposal option

- Transport waste material to the burial site soon after collection.
- Avoid accidental dispersion of plant material during transportation to the burial site.
- Dig a pit allowing half a metre of free space between the top of the plant material and the top edge of the pit.
- Bury with at least 0.5 metres of soil on top of the plant material.
- Consider a surface water cut-off drain if excessive rainfall is anticipated.
- Separate topsoil from subsoil. Topsoil will be used later to cover the pit and assist grass regeneration.
- Manage restricted access to the disposal site (fence site off and/or display signage).
- Cover plant material at the end of each day.
- KVH advises anyone undertaking large excavations to read [Part Two \(s24,s25,s26\) of the Health and Safety in Employment Regulations 1995](#).

### Burning (incineration of material)—second best disposal option

- Ensure you have a fire permit. These are required for all open-air fires, regardless of size.
- Contact your local Regional Council for a copy of their Regional Air plan and regulations around open burning.
- Location—consider the possible effects of the heat, smoke and any odour generated by the fire on nearby structures, roads and residential areas. Ensure smoke from the fire does not create a hazard to traffic or a nuisance to neighbours.
- Access to the site—clear access is needed for equipment to construct the fire site, maintain the fire and for delivery of fuel and vine material. Access is also necessary for emergency services, should the fire escape.
- Preparation of the site—Ensure the fire-site construction and design will kill 100 per cent of the bacteria present. The fire site should be ignited using a suitable accelerant at multiple locations to ensure a rapid build-up of flame.
- Fuel—effective incineration needs considerable fuel to achieve complete burning. The amount and type of fuel available will vary considerably. All fuel required should be on site before the burn starts. Burning of rubber tyres and plastics is prohibited. Dry fuel burns better and with less smoke.
- Place the plant material on top of sufficient combustible material, ensuring the arrangement of fuel and plant material allows adequate air flow from below. This will achieve the hottest fire and most efficient burning.
- Environment- there must be an adequate fire break around the fire.
- Consider Occupational Health and Safety (OSH) concerns.
- Insurance -consider the need to carry rural fire suppression insurance if contemplating burning. Public liability cover should also be reviewed.
- Weather—Check the weather forecast. Ensure the weather in the area of disposal is favourable for burning purposes.
- Biosecurity—inefficient fires, due to a lack of accelerant or when material is too wet to burn, may increase the risk of infected particulate material being spread on rising thermal air currents.

### **Soaking in bleach / sanitiser, then washing or disposal.**

For laundry cleaning;

- Submerge in sodium percarbonate (e.g. Napisan) for at least two minutes before normal clothes washing cycle.

For disposable items;

- Disposable items should be enclosed in sealed bags before being burned or binned with regular refuse.

For reusable containers

- Clean, wash, sanitize and dry before reusing. (refer to *KPCS Best Practice Factsheet : Hygiene*)

### **Autoclaving**

- Waste autoclaves process waste either in batches or in continuous-flow processes.
- Saturated steam is pumped into the autoclave at high temperatures.
- The steam pressure in the vessel is maintained for a period of time to allow the process to fully 'cook' the waste.
- The autoclave process gives a very high pathogen and virus kill rate.

### **Heat treatment**

- Treat for a minimum of 10 minutes at a minimum temperature of 60°C

### **Containment followed by burial by third party**

- Recognised waste management companies transporting to council consented refuse sites may also be used within your region for waste that is not infected.
- Ensure waste is contained in a sealed bag and placed in a covered disposal bin or skip for collection and removal to a deep burial site.

### **Mulching on site—least preferred disposal option**

- Mulching infected plant material as a disposal option can increase the ability to transport infection to neighbouring properties through wind and/or contractor movements.
- Research highlights the importance of ensuring mulched material is contained on the property to prevent local spread of infected material.
- Mulch to the smallest particles possible to increase the rate of decomposition.
- Use a digester product or nitrogen-based fertiliser to accelerate the breakdown of the plant material.
- Limit contractor movement throughout the block until decomposition has reduced all visible leaf matter.
- Thoroughly clean and disinfect all equipment and machinery used for mulching before using on another property.