RESPOND
Bird Flu
Biosecurity

DECONTAMINATION

ALTERNATIVE APPROACHES WHEN CLEANING & DISINFECTION ARE NOT POSSIBLE
WORK INSTRUCTION & CHECKLIST

PIANZ

Egg Producers Federation of New Zealand (Inc)

Ministry for Primary Industries
Manatū Ahu Matua

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Contents

Disclaimer

This publication is for the purpose of supporting the New Zealand poultry industry in responding to disease outbreaks, including Highly Pathogenic Avian Influenza (HPAI), Newcastle Disease (ND), Infectious Bursal Disease (IBD), and Salmonella Enteritidis (SE). While every effort has been made to ensure the accuracy of the information presented, the Poultry Industry Association of New Zealand (PIANZ) and the Egg Producers Federation (EPF), and MPI accept no responsibility or liability for errors, omission, or opinion contained herein, nor for any consequences arising from decisions made based on this information.

1.Purpose

This work instruction and checklist outline alternative process options, such as liming, stand-down, and fallowing, when cleaning and disinfection are not possible during a disease outbreak. The goal is to safely eliminate disease risk from a defined area to prevent persistence or spread and support the operation to resume safely.

Why this matters:

In some situations, physical cleaning and disinfection may not be feasible due to site conditions, resource limitations, or contamination type. In these cases, alternative methods like liming and fallowing are critical to reduce disease risk and protect property, staff, and neighbouring operations. These approaches still require careful planning and monitoring to meet biosecurity obligations.

☞ Please read this document in conjunction with the **Standard, Decontamination Guidelines** and the **Disease Response Biosecurity Plan Guidebook** to ensure all procedures are followed correctly. Where a site already has a Standard Operating Procedure (SOP) for an alternative decontamination approach which meets the requirements in the Standard, use the SOP.

In this document, "you" can refer to either an MPI person or a farmer/operator, depending on who is leading the response activities.

2.Actions

Before you choose the decontamination method, assess the risk level of each item or area. This helps match the right mitigation strategy to the type of contamination.

☞ Use **Table 1** below to guide your decisions. It shows examples of contamination risks and the corresponding mitigation strategies.

Table 1. Risk Levels and Mitigation Strategies

Risk Level	Examples	Recommended Mitigation Strategies
Very high (5)	Contaminated areas e.g. spills of carcasses, raw meat, contaminated eggs	Liming, stand-down period, full disinfection
High (4)	Slaughter equipment, used Personal Protective Equipment (PPE), animal health equipment	Stand-down period, partial disinfection
Medium (3)	Vehicles, packaging, initial processed products	Fallowing, restricted access
Low (2)	Off-site vehicles, further processed products, biosecure feed	Routine cleaning, monitoring
Very low (1)	Cooked products, diagnostic samples (appropriately packaged), general waste	Standard hygiene protocols

Note: Do not apply lime to areas such as electrical appliances or active water courses (e.g. drains, streams etc).

How this fits into the plan

Knowing the contamination risks helps you:

- select the right decontamination method (e.g. full disinfection versus fallowing);
- allocate appropriate gear and personnel;
- develop a clear health and safety plan, including procedures for biosecure transport.

📌 **See Appendix A** for the key information for an alternative decontamination plan.

📌 **See Appendix B** for mitigation examples, to help plan your detailed approach.

📌 **See Appendix C** for step-by-step instructions on how to carry out alternative decontamination approaches.

Remember the red line

The *farm production area map* (Section A.2.1 of the *Disease Response Biosecurity Plan Template*) shows the infected site. Treat the site like it has a border - the **red line.**

Inside the red line = contaminated.

Your job: **keep infection from crossing out of the red line.**

The plan should be based on:

- **Type of contamination:**
  - What's present (e.g. manure, blood, dust).
  - What disease organism is being targeted (e.g. HPAI virus, *Salmonella Enteritidis*).
- **Disease spread and cross-contamination risks:**
  - Movement of animals, people, vehicles, and tools.
  - Traffic flow, barriers, and signage.
  - Nearby waterways or farms.
  - Weather and site conditions (e.g. temperature, wind, rain).
- **Sensitive zones:**
  - Areas needing exclusion or special handling (e.g. offices, feed storage, living quarters).

Ask yourself:

☑ How do I protect disinfected areas from being re-contaminated?
☑ How will I contain water run-off to prevent disease spread?

Work closely with contractors to ensure everyone understands the plan and follows the same protocols.

2.1 Materials and personnel

These are the core elements that support good practice (liming only). You may need to scale up depending on the size of the job:

Category	Item
🧍 **Personal Protective Equipment (PPE)**	• PPE as outlined in the Health New Zealand guidance (incl. overalls, gloves, as well as eye and hearing protection). • Respirator.
⚠ **Safety equipment**	• Hydrated lime or quicklime. • Spreaders, shovels. • Water source. • Containment barriers.

For stand-down and fallowing, signage and physical barriers such as fences and gates are used to ensure areas are separated and secured.

2.2 Health and safety actions

The on-site **written, health and safety plan** for decontamination activities at the infected site, needs to cover risks associated with alternative decontamination approaches during a disease incursion. If you're working with **contractors**, make sure you're familiar with and coordinate with their health and safety plans too.

This ensures everyone is working safely, understands the risks, and follows the right procedures to prevent disease spread.

The plan should cover:

- **safe use of the equipment** (e.g. applicators) and substances (e.g. lime);
- **entry and exit points** (watch for cross-contamination), including disinfection steps before departure and after arrival in different zones (e.g. entering a shed) and on and off of the property;
- **risk management for handling infected materials;**
- **movement controls** for vehicle, equipment and personnel movement through high-risk zones (e.g. near sheds, water sources, or red line boundaries);
- **PPE requirements** for all staff involved in alternative approaches when cleaning and disinfection are not possible.

Follow these rules:

- ☑ Conduct a health and safety briefing based on the site-specific plan.
- ☑ Keep accessways clear and safe for vehicles and machinery.
- ☑ Move from dirty to clean, never the other way around, to prevent cross-contamination.
- ☑ Ensure adequate lighting e.g. in sheds or when working at night.
- ☑ Wear correct PPE at all times.
- ☑ Stick to all biosecurity procedures, including recording and reporting any new risks.
- ☑ handle materials carefully to prevent disease spread during decontamination.

Refer to: *Avian influenza health and safety guidance for workplaces – Health New Zealand | Te Whatu Ora*

3.Appendices

Appendix A: Key information

When physical cleaning and disinfection can't be done, alternative approaches like liming, stand-down, and fallowing should be planned to reduce disease risk.

Plan your approach

- A clear plan ensures no steps are missed and contamination is contained.
- Match the method to the contamination type and risk level (see table 1 in main document).
- Use your farm map to define the red line, "the contaminated zone", and prevent spread beyond it.

Surface & site challenges

- Uneven terrain, porous materials, and hidden areas (e.g. ducts, pits, motors) reduce effectiveness.
- Seal or replace surfaces that can't be cleaned.
- Weather, water runoff, and nearby farms need to be considered in your plan.

Water quality

- Poor water quality (e.g. High pH or hardness) can reduce disinfectant effectiveness.
- Check with your supplier if unsure as incorrect water use wastes time and leaves pathogens behind.

Self-assessment & verification

- Use torches, swabs, and checklists to confirm cleaning and mitigation steps.
- Clean before disinfecting and verify before moving on.
- Contractors should follow the same protocols and health & safety plans.

Liming

- Use hydrated lime for surface areas.
- Quicklime can be used for burial pits where odour may be excessive e.g. eggs (requires water slaking). Liming of burial pits is not recommended for organic material other than eggs as it impedes decomposition.
- Apply evenly, restrict access for 72 hours, and monitor at 30, 60, and 90 days.
- Lime is caustic – avoid contact and keep away from water bodies.
- Record type, quantity, location, personnel, and inspection results.

Stand-down

- Cleaning needs to be completed first.
- Triggered when disease is absent or eradicated.
- Applies to sites, vehicles, and tools – movement restrictions are likely to remain until audited.

- MPI is likely to assess and confirm recovery status.

Fallowing

Please note that the advice below is suitable for HPAI. Should there be a different disease, please check with MPI for advice.

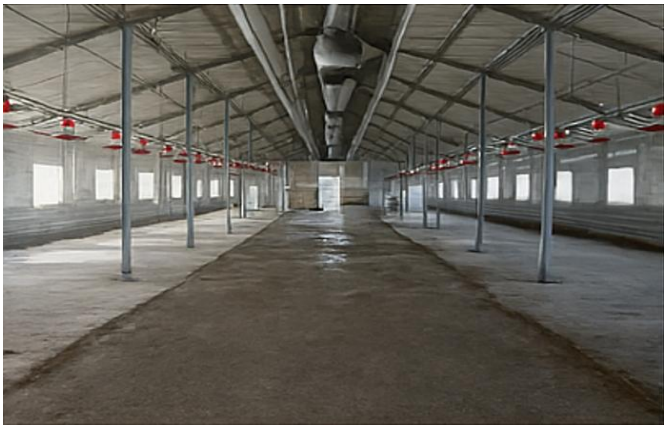
- Restrict access for at least 30 days or as advised.
- Use signage and barriers to secure the area.
- Monitor for wildlife or unauthorised entry.
- Environmental sampling may be required.

Appendix B: Examples for specific alternative decontamination approaches

Liming

Liming involves applying lime to contaminated surfaces to elevate pH and inactivate pathogens.

Stand-down



Stand-down involves a period of non-use following cleaning, to allow any remaining pathogens to die off.

Fallowing

Fallowing refers to restricting access to an area over a specified period to contain pathogens and allow them to degrade naturally.

Appendix C: Step-by-step instructions

☑ Pre-Start Checklist

Action	Complete (Yes / No)
Electrical equipment made safe (if applicable)	
Bulk soil removed from all surfaces	
Sensitive equipment sprayed and wiped (MPI-approved)	
Sensitive equipment covered (e.g. plastic bags)	
Vehicle wash/spray station set up at entry/exit	
Cleaning team briefed and PPE issued	
Waste disposal plan confirmed	
Water source and quality checked	
Detergents and disinfectants on hand (MPI-approved)	

Liming

Step-by-step instructions for applying lime to contaminated areas.

Materials and equipment:

- Hydrated lime or quicklime.
- PPE (coveralls, gloves, respirator, goggles).
- Spreaders, shovels.
- Water source.
- Containment barriers.

Safety preparation:

- Full PPE requirements and staff trained on the correct use of PPE.
- A prepared site-specific health and safety plan.
- Lime stored securely.

Lime selection:

- Hydrated lime for surface use.
- Quicklime (requires slaking with water) for burial pits to reduce odours, when disposing of eggs only. Not suitable for other biological material as it interferes with decomposition.

Application:

- Apply lime evenly to cover affected surface areas as per site plan.

Monitoring:

- Restrict access for 72 hrs.
- Inspect at 30, 60, 90 days.
- Monitor for recontamination.

Safety and environment:

- Lime is caustic: avoid skin/eye contact.
- Keep away from water bodies and sensitive equipment such as electrical appliances.
- Dispose of unused lime safely.

Documentation:

- Record lime type, quantity, application date/location, personnel involved, and inspection results.
- Refer to the audit checklist.

Stand-down

Step-by-step instructions for implementing a stand-down protocol.

Cleaning and disinfection:

- Needs to be completed before the stand-down period begins.

First step:

- Triggered when the disease is not detected or has been eradicated.
- Applies to both places and items (e.g., vehicles, equipment).

Scope of application:

- Includes commercial poultry sites, transport vehicles, tools, and equipment.
- Movement restrictions are likely to remain in place until stand-down is audited.

Audits and assurance:

- Stand-down periods and cleaning/disinfection should be assessed in consultation with an MPI place-based manager (where appropriate).
- Audits ensure the site can be classified as recovered and disease-free.
- Depending on disease organism, environmental sampling may be required.

Fallowing

Step-by-step instructions for implementing fallowing procedures.

- Restrict access to fallowed areas for a minimum of 30 days or as advised by biosecurity authorities.
- Monitor the area for signs of wildlife or unauthorised entry.
- Maintain signage indicating restricted access and biosecurity status.

Conduct periodic environmental sampling if required.

Appendix D: Audit checklist

GENERAL

Site name:	
Site address:	
Site contact name:	
Movement control permit/s number/s (as required) (for off-site):	

DOCUMENTATION

Document	Comment	Acceptable Y/N
Procedures (SOP)		
Contract related Statement of Work (where appropriate)		
Site health and safety procedures		
Movement control permits, if required		

RECORDS

Records	Comment	Acceptable Y/N
Numbers of sites (places) to be decontaminated		
Monitoring of the additional mitigation (liming, stand-down and/or fallowing)		
Review scoring and outcomes and corrective actions		
Monitoring of cleaning and disinfection of vehicles (where appropriate)		

REALITY (confirm that what is observed is consistent with the procedures and records viewed)

Liming procedure checklist

Mitigation		Chemical concentration and/or Application Rate	Correct - √ or Needs Improve- X	Date and time
Liming Process for areas adjacent to sheds	Removal of any material which would interfere with liming efficacy			
	Liming			
	Treatment of material (example Pit Liming)			

Stand down protocol checklist

Mitigation	Identification (area or place)	Signage (if applicable)	Date and time
Area restriction			
Monitor area			
Biosecurity status			
Environmental status			

Fallowing procedure checklist

Mitigation	Identification (area or place)	Signage (if applicable)	Date and time
Area restriction			
Monitor area			
Biosecurity status			
Environmental status			

Appendix E: Example SOP: Fallowing procedure (farmer/operator use only)

Purpose

To restrict access to contaminated areas for a defined period, allowing natural degradation of pathogens and ensuring biosecurity compliance.

Scope

This SOP applies to all areas designated for fallowing during a biosecurity response where cleaning and disinfection are not feasible.

Responsibilities:

- Site supervisor: Designate fallowing zones and ensure signage and barriers are in place.
- Monitoring team: Conduct regular inspections and environmental sampling.

Materials and equipment:

- Physical barriers (e.g. fences, gates).
- Signage indicating restricted access.
- PPE for monitoring personnel.
- Environmental sampling kits.

Procedure

1. Site preparation

- Identify and map fallowing zones, and uncontaminated areas that can be used.
- Install physical barriers to prevent access.
- Place clear signage indicating restricted access and biosecurity status.

2. Access restriction

- Restrict access for a minimum of approximately 60-120 days or as advised by biosecurity authorities (see Decontamination Guidelines for specific details).
- Ensure no personnel, vehicles, or equipment enter the fallowed area.

3. Monitoring

- Conduct regular inspections for signs of wildlife or unauthorised entry.
- Maintain barrier integrity and signage visibility.

4. Environmental sampling

- Perform periodic environmental sampling if required by biosecurity authorities.
- Record and report findings to the site supervisor.

Records

- Fallowing zone map and designation records.
- Inspection logs.
- Environmental sampling results.
- Access restriction compliance reports.
- Corrective and preventative actions.

Appendix F: Fictional illustrative scenario (farmer/operator use only)

When bird flu hit: how I fallowed my small free-range egg farm and survived[1]

I run a small free-range egg farm with about 300 birds. We've got caravans and a few paddocks where the hens roam. When bird flu hit, it felt like the world stopped. Everything I'd built was suddenly at risk.

I looked at the options MPI gave us, full cleaning and disinfection, but the cost was way beyond what I could manage. The gear, the chemicals, the contractors… it just wasn't practical for a setup like mine. So I went with the only option that made sense: fallowing.

Euthanising the birds was hard, but many of them were already sick so I felt I was stopping them suffering. Then, I scraped out every bit of manure from the caravans. It was hard, dirty work, but I got it done. I composted the birds, the manure, and the bedding on-site. Because the quantity was small, I didn't need a resource consent, which was a relief.

Then I limed the fields. Hydrated lime went down across the paddocks to knock back any virus that might still be hanging around. After that, I locked the place up, signs on the gates, no entry for anyone. The farm sat empty for twelve months, just me checking in now and then to make sure nothing had gone wrong.

I was lucky at the start as it was summer, hot and dry. The UV from the sun helped kill off anything left behind. That gave me some peace of mind.

I didn't even let the sheep back onto the paddocks. They had to go. I sold them off because I couldn't risk spreading the virus. That was another hit, but it had to be done.

The hardest part wasn't the work, it was the money. I had to go back to full-time work off farm just to keep afloat. Everything went on the credit card, and I'm still paying it off. It's tough, but I did what I had to do to protect the farm and stop the spread.

If there's one thing I learned, it's that fallowing works when you've got no other choice. It's not easy, and it's not cheap, but it's doable. And sometimes, that's all you've got.

[1] This is a fictional scenario for illustrative purposes only.