



DISPOSAL

COMPOSTING WORK INSTRUCTION & CHECKLIST



Ministry for Primary Industries
Manatū Ahu Matua



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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 the processes for safely composting contaminated material, such as carcasses, eggs, or litter, infected or suspected of having a notifiable disease such as Highly Pathogenic Avian Influenza (HPAI), either onsite or at an approved offsite composting facility.

Why this matters:

Composting must be done safely and securely to ensure the complete inactivation of the disease organism and prevent the persistence or spread of disease. Under the Biosecurity Act 1993, no-one can knowingly spread disease, so this is a legal obligation.

Biosecure composting:

Biosecure composting is defined as follows: "The controlled biological decomposition of infectious organic material in a managed system that reaches and maintains temperatures sufficient to inactivate the disease organism, while containing leachate and preventing disease spread."

Composting is not easy. If you have not done it before, seek expert advice.

Further reading (TBD)

🔗 Please read this document in conjunction with the **Standard, Disposal Guideline** 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 biosecure composting which meets the requirements in the Standard, use the site's 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 start - know the workload challenge

To plan composting properly, first figure out:

- **what** needs composting (e.g. carcasses, eggs, litter, bedding, contaminated feed);
- **how** much material there is;
- **when** it needs to be moved.

🔗 For farmers/operators, you can use **Section B2** of the Disease Response Biosecurity Plan Guidebook and Template, or the online Disease Response Biosecurity Plan Builder to help record this information.

Understanding the challenge helps you:

- select the right carbon sources (e.g. wood chips, sawdust) to balance nitrogen and moisture;
- choose the right gear (loaders, bins, temperature probes);
- line up the right people;
- build a clear health and safety plan and procedures for composting.

Remember composting sites usually require **resource consent**:

🔗 Refer to your **Regional Disposal Guide** for specific requirements.

⌚ Consents can take time, so if a resource consent is required the application and approval should be completed ahead of a disease incursion, for this to be a viable disposal option.

- ✂ **See Appendix A** for the key information about the composting plan.
- ✂ **See Appendix B** for composting examples, to help plan your detailed approach.
- ✂ **See Appendix C** for step-by-step instructions on how to carry out composting.

Remember the red line

The *farm production area map* (Section A.2.1 of the Disease Response Biosecurity Plan Template) shows the infected site and there should be a similar map for the composting site (if off-site). Treat these sites like they have a border - the **red line**.

Inside the red line = contaminated.

Your job = **keep infection from crossing out**.

- ☒ For on-site composting, prepare the composting area e.g. pest control, carbon material stockpiling and drainage (particularly if outside).
- ☒ Ensure the windrow size and the number of personnel are sufficient to manage the volume of contaminated material safely.
- ☒ Move the contaminated material to the composting site without contaminating the environment.
- ☒ Begin **stage 1 composting** and monitor temperatures daily to ensure pathogen inactivation.
- ☒ Continue **stage 2 composting** and monitor for spontaneous combustion and breakdown completion.

Work with contractors, composting specialist, and disposal site managers to make sure everyone's on the same page and plan depopulation and disposal together to meet timelines and biosecurity requirements.

2.1 Materials & personnel

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

Category	Item
 Personal Protective Equipment (PPE)	- Personal Protective Equipment as outlined in the Health New Zealand guidance. - Antiseptic wipes. - Disinfectant and spray bottle. - First aid kit. - Paper towels.
 Safety equipment	Fire extinguisher (especially important during Stage 2 composting due to spontaneous combustion risk).
 Equipment	- Temperature probes. - Covering plastic. - Flags to identify temperature monitoring location. - Large plastic rubbish bags. - Cable ties. - Large plastic containers. - Data collection sheets (See Appendix D), pens, and clipboards. - Pest control traps and bait stations.

Category	Item
 Machinery & vehicles	Front loaders, telehandlers, or similar machinery.
Carbon sources	- To ensure effective composting and pathogen inactivation, use carbon materials that: - maintain a carbon: nitrogen (C:N) ratio of 25:1 to 40:1; - are 2–5 cm in size (avoid >5 cm to prevent excess porosity and heat loss). - Examples of suitable carbon sources: - Partially or fully composted material (e.g. existing compost). - Mulch or manure. - Straw or wood shavings/chip.

2.2 Health and safety actions

The on-site **written health and safety plan** for composting activities at the infected site or off-site composting area, needs to cover risks associated with biosecure composting during a disease incursion. If you're working with **contractors** or using an **off-site composting location**, 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.

This plan should cover:

- **Entry and exit points** (watch for contamination), including disinfection steps for vehicles, equipment and personnel before departure and after arrival;
- **Risk management for handling infected carcasses or waste;**
- vehicle movement through high-risk zones (e.g. near sheds, water sources, or red line boundaries);
- **PPE requirements** for drivers and loaders;
- **Fire and heat risks** as stage 2 composting can generate high temperatures;
- **Spill or leak** risks during loading/unloading;
- **An instruction to 'not climb/walk on windrows'** due to the unstable surfaces, high temperatures and potential hidden voids.

Work with:

- The **truck company** (if transporting to off-site composting);
- The **final disposal site** (e.g. composting operator). Have a clear plan in place if the site is not commercial;
- Any **contractors** involved in composting activities.

Make sure everyone understands each other's health and safety plans and that they're aligned.

Follow these rules:

- ☒ Conduct a health and safety briefing based on the site-specific plan.
- ☒ Keep accessways clear and safe for vehicles and machinery.
- ☒ Ensure adequate lighting, especially if working at night or in low visibility.
- ☒ Wear correct PPE at all times.
- ☒ Stick to all biosecurity procedures, including recording and reporting any new risks.
- ☒ Handle materials carefully to prevent spread during loading, transport, and composting.
- ☒ Watch for leaks or spills and follow agreed actions if they occur.

 Refer to: [Avian influenza health and safety guidance for workplaces – Health New Zealand | Te Whatu Ora](#)

2.3 Composting procedures

Where there is one, use the site's SOP for composting and/or be familiar with the SOP for the off-site compost site. Before starting, check the SOP against the Disposal Guideline and Standard to ensure it supports good practice and meets requirements. If it doesn't, update it or arrange an alternative method. If no SOP exists, create one using the Depopulation Guideline and Standard.

Auditors will use the **Composting Audit Checklist** to confirm all required steps are completed.

 **See Appendix E** for the audit checklist that helps to assess if all the required steps have been covered.

For farmers/operators:

 **See Appendix C and F** for help with writing your composting SOP.

 **See Appendix G** for examples that show what to expect in real-world scenarios.

For off-site composting, the **composting operator's SOP** is the primary Work Instruction.

For MPI:

The off-site composting SOP may be audited against the Disposal Guideline and Standard by an authorised person. If the SOP doesn't meet the required standard, the operator will need to amend their procedures or if they are unable to comply, they will be unable to accept contaminated material for biosecure composting.

 The **Biosecure Transport Work Instruction and Checklist** should also be followed.

Tip: Composting and biosecure transport procedures can be integrated into one SOP.

For on-site composting you need a plan for:

Stage	What to cover
Preparing the site	Choose a suitable composting location. Control pests, clear the area, stockpile carbon sources, and set red line boundaries. Ensure access for machinery and vehicles.
Moving contaminated Material	Use sealed bins or containers. Wear full PPE. Avoid spills. Disinfect gear and vehicles before and after movement.
Constructing the windrow	Follow layering instructions: carbon base, carcass mix, carbon cover. Ensure no carcasses are visible. Secure with plastic cover.
Monitoring Stage 1	Take daily temperature readings at flagged locations. Ensure temperature thresholds are met for pathogen inactivation.
Turning the windrow	Only turn after Stage 1 is complete. Rebuild windrow and re-cover. Monitor for visible carcasses and reapply carbon if needed.
Monitoring Stage 2	Continue daily temperature checks. Watch for signs of spontaneous combustion such as excessive temperatures or smoke. Maintain >37°C for at least 14 days.
Finishing and releasing material	Ensure all temperature and breakdown criteria are met. Get sign-off from a composting specialist or MPI officer before land application.
Managing other waste	Double-bag non-compostable waste (e.g. PPE, plastic covers) and dispose of it according to agreed procedures.
Site security and record keeping	Fence or tape off the composting area. Post signage. Keep access restricted. Record all composting and monitoring data.

3. Appendices

Appendix A: Key information

Composting objectives

- Safely dispose of carcasses and contaminated materials.
- Prevent environmental contamination.
- Minimise biosecurity risks.
- Ensure compliance with MPI and regional council requirements (you will need resource consent).

Essential materials:

Material	Purpose
Carcasses	Primary composting material
Litter/bedding	Absorb moisture, add bulk
Eggs & feed	Organic matter for decomposition
Carbon source e.g. wood chips, sawdust	Balance nitrogen, improves aeration
Water	Aids microbial activity (if carcasses are dry)
Plastic cover	Controls moisture and temperature
Temperature probes	Monitoring internal compost temperatures

Stages explained:

	Stage 1: Initial composting for pathogen inactivation	Stage 2: Post-turning composting
Purpose:	Begin decomposition of carcasses and organic material.	Continue breakdown of material after turning.
Location:	Can be indoors or outdoors.	Typically, outdoors, especially if Stage 1 was indoors.
Key actions:	Construct windrows with layered carbon and carcass mix. Cover with plastic to retain heat and moisture. Monitor internal temperatures daily.	Turn windrows to aerate and redistribute material. Re-cover and monitor temperatures daily. Watch for fire risk and temperature extremes.
Temperature targets:	38 °C within first 72 hours. 55 °C for 3 consecutive days or 48 °C for 10 days, or 37 °C for 30 days.	Maintain >37 °C for at least 14 consecutive days.
Outcome:	Material is partially composted and ready for turning.	Material is fully composted and ready for disposal or land application (with sign-off).

Appendix B: Examples of specific composting types

Types	Consideration	Suitable for
Indoor windrow	Constructed inside a shed or barn with controlled ventilation.	High biosecurity zones, wet weather conditions.
Outdoor windrow	Built on a flat, secure area with fencing and pest control.	Low-risk zones, dry weather, large-scale operations.
Bin composting	Uses large bins or containers to contain material.	Small volumes, backyard or pilot setups.
Static pile	No turning; relies on passive aeration and layering.	Emergency use, limited equipment access.

When to seek expert help

If you have not conducted large-scale composting before, it is **strongly recommended** to seek guidance from a composting specialist to ensure the process is safe, compliant, and effective. Composting improperly can lead to environmental risks, biosecurity breaches, or incomplete carcass breakdown.

Appendix C: Step-by-step instructions

☒ Pre-start checklist

Action	Complete (Yes / No)
Health and safety plan in place	
Site map prepared	
Disposal plan (who, how, when) considered	
Personnel skilled with the training, qualification or experience in composting	
Composting data sheet prepared and Section 1 completed	
Temperature reporting form ready	
Composting site ventilated	
Pest control measures in place	
Carcasses pushed to sides of the shed for access	
Composting materials mixed and carbon added	
Water added if carcasses are aged	
Windrow construction plan confirmed	
Temperature monitoring locations flagged	
Temperature probes disinfected and ready	

Step 1: PPE Requirements

- All personnel must wear:
 - Gumboots;
 - Long-sleeved gloves;
 - Coveralls;
 - Safety glasses or full-face shield;
 - N95 mask

Additional PPE:

- If working inside the shed with gas exposure risk, use SCBA or air-line respirator.

Step 2: Data preparation

Complete the composting data and temperature reporting form with the following being the minimum information required:

Data	Format
Dates: Windrow construction start and completion	DD-MM-YYYY
Material volumes:	Carcasses – kg Animal products and by-products – kg Eggs – number or kg Litter – kg Bedding – kg
Windrow details:	Number of windrows Size - (H) x (L) x (W) – cm
Monitoring information:	Full name of person taking temperatures Daily temperature readings at each location (°C)

Step 3: Prepare composting site

1. Ventilation

- Turn on fans or open doors/curtains.
- Ensure 5–10 air changes/hour to maintain safe CO₂ and NH₃ levels.

2. Pest control

- Place traps and bait stations around the site.
- If Stage 1 is outside, consider fencing to prevent wildlife interference.

3. Site clearance

- Use machinery to push carcasses to the sides for clear access (if not complete as part of depopulation).

4. Material preparation

- Mix carcasses with litter, bedding, eggs, contaminated feed, paper.
- Add carbon sources as needed.
- If composting is not immediate, add water to aid decomposition.

Step 3: Construct the Windrow

1. Lay plenum

- Base layer of sturdy carbon material (25–60 cm thick).

2. Layering

- Add carcass mixture.
- Add 10–15 cm layer of carbon.
- Repeat until pile is max 1.8 m high.

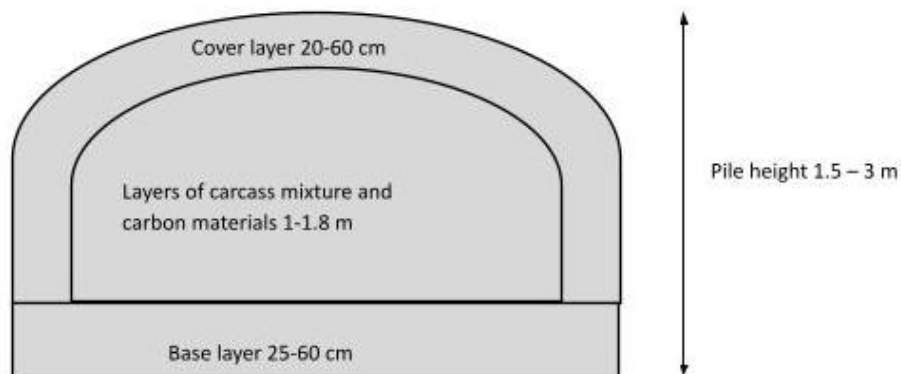
3. Final cover

- Top with 20–60 cm carbon layer.
- Ensure no carcasses are visible.

4. Covering

- Secure plastic cover over the windrow.

Figure 1. Windrow cross-section (not to scale).



Step 4: Stage 1 monitoring

1. Identify temperature locations

- Use flags to mark consistent probe points.
- For windrows:
 - 60 m: divide into 15 m sections.
 - ≤60 m: divide into 5 equal sections.

2. Temperature requirements

- Within the first 72 hrs: >38 °C.
- Next 3 days (minimum): >55 °C for 3°C consecutive days, 48°C for 10 days, or 37°C for 30 days.

3. Probe insertion

- Insert probe at flagged locations without climbing on pile.

4. Reading points per location

- Near bottom (¼ depth).
- Mid-level (¼ depth).
- Near top (¼ depth).
- Middle height (½ depth).

5. Reading protocol

- Leave probe for ≥60 seconds or until stable reading.
- Disinfect probe after each use.

6. Consistency

- Same person takes readings daily at same locations.

7. Daily monitoring

- Continue until temperature requirements are met.
- If not met, consult composting specialist.

Step 5: Turning the windrow/s

Only begin turning **after Stage 1 temperature profiles are met.**

1. Remove plastic cover

- Carefully remove and place in a suitable container for disposal.
- Set aside for disposal as per "Other Waste" procedure (see step 8).

2. Turn windrow

- Use loader or machinery to fluff and aerate material.
- If Stage 1 was indoors: move material outside.
- If Stage 1 was outdoors: move material into new pile.

3. Rebuild windrow

- If visible carcasses remain:
 - Add 15 cm carbon layer.
 - Cover with plastic and secure.
- If no visible carcasses:
 - No carbon layer needed.
 - Cover with plastic and secure.

Step 6: Stage 2 monitoring

1. Fire safety

- Keep at least 1 fire extinguisher on site.
- Monitor for spontaneous combustion in hot weather.

2. Identify temperature locations

- Use flags at consistent probe points.
- 60 m: divide into 15 m sections.
- ≤60 m: divide into 5 equal sections.

3. Temperature requirements

- Maintain >37 °C for at least 14 days.
- If <37 °C for 3 days: consult compost specialist.
- If >70 °C for 3 days: consult compost specialist.

4. Probe insertion

- Insert probe at flagged locations without climbing on pile.

5. Reading points per location

- Near bottom (¼ depth).
- Mid-level (¼ depth).
- Near top (¼ depth).
- Middle height (½ depth).

6. Reading protocol

- Leave probe for ≥60 seconds or until stable reading.
- Disinfect probe after each use.

7. Daily monitoring

- Continue for at least 14 days.
- Ensure all material has broken down.

Step 7: Finished Material

1. Release criteria

- Temperature requirements for Stage 1 and 2 must be met.
- Disposal onto arable land requires sign-off by:
 - Competent composting specialist; or
 - MPI officer.

Step 8: Other waste

Procedure for disposing of non-compostable waste, including disposable PPE and plastic covers:

1. Place waste in thick black plastic bags.
2. Secure with zip ties and double bag.
3. Seal second bag and place in airtight container.
4. Dispose according to the Disposal Guideline and Standard.

Appendix D: Composting data recording sheet example

General information

Site ID		Farm name	
Site name		Temperature recorder name	

Temperature monitoring

Start date									
End date									
	Windrow no.					Windrow no.			
	Probe position					Probe position			
Day	P1	P2	P3	P4		P1	P2	P3	P4
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Appendix E: Audit checklist

GENERAL

Farm contact name:		Contact Ph:	
Farm and address:			
Disposal site name (for off-site):			
Disposal site address (for off-site):			
Disposal site contact name (for off-site):		Contact Ph:	
Trucking company:		Truck driver name:	
Movement Control Permit/s Number/s (as required):			

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		
Resource consent (if required)		

RECORDS

Records	Comment	Acceptable Y/N
The correct Biosecurity Act permits and permissions		
Monitoring records for windrow construction		
Monitoring records for sage 1 composting (time/temperature)		
Monitoring records for windrow turn-over for stage 2 commencement.		
Personnel training records		
For off-site composting:		

Records	Comment	Acceptable Y/N
Monitoring records for truck cleaning and disinfection prior to leaving the infected place		
Monitoring records for plant cleaning and disinfection at the end of the day		
Monitoring records for truck cleaning and disinfection prior to leaving disposal site		

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

Initial compost windrow construction approval checklist (Part 1)

This checklist is to be used immediately after windrow construction to verify it meets criteria laid out in the composting specifications.

General

Windrow/s numbers:	Date windrows started:	Date Windrows Completed:
Who constructed windrow/s:	Contact Ph:	

Windrow design

	Design aspect	Yes	No	N/A	Comments
1	Height is between 1.5 and 3 metres tall				
2	Width is between 3 and 5 metres wide				
3	Base is between 25 to 60 cm thick				
4	Dome shaped without significant irregularities				
5	No soft tissue visible on the surface of the windrow				
6	A minimum of 20 cm of carbon cover material				
7	At least 1 temperature flag per 15 metres				
8	Temperature location flags evenly spaced				
9	Photos taken of the process				
10	Sketch of flag locations with dimensions attached				
11	Pest control deployed (describe of types of traps/bait used)				

Verifier's recommendation:

☐ I have observed the windrows at this site and in my professional judgement they have been constructed consistent with the criteria outlined in the *Disposal Composting Work Instructions*.

☐ I have observed the windrows at this site and in my professional judgement they **have NOT been** constructed consistent with the criteria outlined in the *Disposal Composting Work Instructions*. The following corrective actions are recommended:

Compost windrow approval checklist (Part 2)

This checklist is to be used after stage 1 of the composting process (generally 14 days after construction) to verify windrow construction remains sound and in line with specifications and have reached temperatures necessary for pathogen inactivation.

General

Site ID:		Agribase ID:	
Farm address:			
Farm Contact Name:		Contact Ph:	
Windrow/s numbers:	Date windrows started:	Date Windrows Completed:	
Who constructed windrow/s:		Contact Ph:	

Windrow design

	Design aspect	Yes	No	N/A	Comments
1	Height is between 1.5 and 3 metres tall				
2	Width is between 3 and 5 metres wide				
4	Dome shaped without significant irregularities				
5	No soft tissue visible on the surface of the windrow				
6	A minimum of 20 cm of carbon cover material				
7	Adequate moisture levels				
8	Excessive flies				
9	Pest activity observed (potential vectors)				
10	Odour observed				
11	Temperature measured at over 38°C				
12	Temperatures reached over 55°C for 3 consecutive days or 48°C for 10 days, or 37°C for 30 days				
14	Photos taken				

Verifier recommendation:

☐ I have observed the final product compost at this site and in my professional judgement it has been produced consistent with the criteria outlined in the *Disposal Composting Specifications* and the compost

has maintained a temperature more than 37°C for 14 days. Disposal by composting is completed and testing has confirmed there is no pathogen present.

☐ I have observed the windrows at this site and in my professional judgement they have **NOT** been constructed consistent with the criteria outlined in the *Disposal Composting Specifications*. The windrows should be evaluated by a composting expert.

☐ Windrow temperatures have **NOT** reached the average temperature of 55°C for 3 consecutive days or 48°C for 10 days, or 37°C for 30 days. The windrows should be evaluated by a composting expert. The following corrective actions are recommended:

Compost completion approval checklist (Part 3)

This checklist is to be used after stage 2 of the composting process (generally 14 days after turning) to verify the compost piles have reached temperatures necessary to breakdown all remaining soft tissue and final product can be released.

Compost composition

	Design aspect	Yes	No	N/A	Comments
1	No soft tissue visible within the compost				
2	Temperature requirements have been met for both stages				

What will be a verifiers recommendation:

☐ I have observed the final product compost at this site and in my professional judgement it has been produced consistent with the criteria outlined in the *Disposal Composting Specifications* and temperatures have maintained a temperature more than 37°C for 14 days. Disposal by composting is completed.

☐ Additionally, testing has confirmed there is no pathogen present.

☐ I have observed the final product compost at this site and in my professional judgement it has **NOT** been produced consistent with the criteria outlined in the *Disposal Composting Specifications* and temperatures have **NOT** maintained a temperature more than 37°C for 14 days. The following corrective actions are recommended:

Appendix F: Example SOP: disposal by composting (on-site) (farmer/operator use only)

Purpose

To ensure contaminated material is safely buried onsite to prevent the spread of infectious agents, in accordance with the Disposal Guideline.

Scope

This SOP applies to all composting activities involving carcasses, eggs, litter, bedding, or contaminated feed during an exotic disease outbreak.

Responsibilities

- **Farm operator:** Oversees composting activities and ensures SOP compliance.
- **Contractors:** Carry out material handling, windrow construction, and turning as directed.
- **Site supervisor:** Coordinates activities, monitors safety and temperature, and maintains records.

Materials and equipment

- Front-end loader or telehandler.
- PPE (coveralls, gloves, boots, N95 mask, eye protection).
- Carbon sources (e.g. wood chips, straw, mulch).
- Temperature probes.
- Plastic sheeting for windrow cover.
- Spill kit and disinfectant.
- Pest control traps and bait stations.
- Signage and fencing for red line boundary.
- Lighting (if operating in low visibility).
- Composting Monitoring and Verification Checklist.

Procedure

1. Site preparation

- Select a suitable composting location with good drainage and access.
- Control pests and clear the area.
- Stockpile carbon materials.
- Establish red line boundary and post signage.

2. Moving contaminated material

- Use sealed bins or containers.
- Wear PPE and follow hygiene protocols.
- Avoid spills and cross-contamination.
- Disinfect gear and vehicles before and after movement.

3. Constructing the windrow

- Lay a 25–60 cm carbon base (plenum).
- Layer carcass mixture with 10–15 cm carbon layers.
- Repeat until pile reaches ~1.8 m high.
- Top with 20–60 cm carbon cover.
- Secure with plastic sheeting to retain heat and prevent scavenger access.

4. Stage 1 monitoring

- Mark temperature probe locations with flags.
- Take daily readings at multiple depths and locations.
- Ensure: 38°C within 72 hours; then
 - 55°C for 3 consecutive days, or
 - 48°C for 10 days, or
 - 37°C for 30 days.
- Record data and consult a composting specialist if thresholds are not met.

5. Turning the windrow

- Only turn after Stage 1 temperature targets are met.
- Remove plastic cover and set aside for disposal.
- Use machinery to fluff and aerate material.
- Rebuild windrow and re-cover.
- Add carbon if carcasses are visible.

6. Stage 2 monitoring

- Continue daily temperature checks.
- Maintain >37°C for at least 14 days.
- Monitor for spontaneous combustion.
- Consult a composting specialist if temperatures fall below 37°C or exceed 70°C for 3 days.

7. Finishing and releasing material

- Ensure all composting criteria are met.
- Obtain sign-off from a composting specialist or MPI officer before land application.
- Record final compost volume and destination.

8. Managing other waste

- Double-bag non-compostable waste (e.g. PPE, plastic sheeting).
- Secure with cable ties and place in sealed containers.
- Dispose of according to agreed procedures.

Records

- Composting Monitoring and Verification Checklist.
- Daily temperature logs.
- Disposal logs (volume, type, date).
- Photos or video of composting process.
- PPE and waste disposal records.
- Post-composting inspection reports. Post-burial inspection reports.
- Corrective and preventative actions.

Appendix G: Fictional illustrative scenario: On-farm composting – my bird flu response (farmer/operator use only)

I run a small free-range egg farm with 3,000 hens. When bird flu hit, it was a gut punch, but I was ready. I already had resource consent for both burial and composting, as I'd been working toward composting as part of my BAU approach to waste management.

Even so, I'd never composted at this scale before. I knew I couldn't do it alone. So I brought in a composting expert to walk me through the setup. It cost a bit, sure, but it saved me time, stress, and mistakes. In the long run, it was absolutely worth it.

What I had to deal with

- **Carcasses** – about 6,000 kg. Double-bagged, sprayed with disinfectant, and loaded into sealed bins.
- **Eggs** – around 180 kg, including broken ones. Packed in lined containers and sealed tight.
- **Litter** – 1.5 tonnes. Scooped into lined bulk bins and sprayed before moving.
- **Free-range paddocks** – fenced off and marked as red zones. No removal, just fallow and monitor.
- **Old egg belts** – couldn't be cleaned, so I double-bagged and sent them to landfill.

How I set up composting

With expert advice, I picked a dry, accessible spot away from sheds and water. We laid down a thick carbon base, wood chips and straw, then layered in the carcass mix with more carbon. Built the windrow up to about 1.8 metres and topped it with a thick carbon cover. Then sealed it with plastic.

Monitoring and turning

I checked temperatures daily. Within 72 hours, the pile hit 40°C. By day five, it was holding above 55°C. After two weeks, I turned the pile, rebuilt it, and started Stage 2. I kept it above 37°C for another two weeks.

Safety and biosecurity

We wore full PPE, held a safety briefing, and had a spill kit on hand when I moved the material from the shed to the composting site using a covered bucket on a front-end loader a neighbour kindly lent me. I kept the composting area fenced using waratah standards and electric tape and posted signs. All movements were logged, and I disinfected gear and vehicles before and after use.

What I learned

Composting worked. It was hard work, but I kept everything on-site, avoided landfill costs, and now I've got safe, nutrient-rich compost I can use later, with MPI sign-off, of course. I couldn't have done it alone, and I'm glad I didn't try.