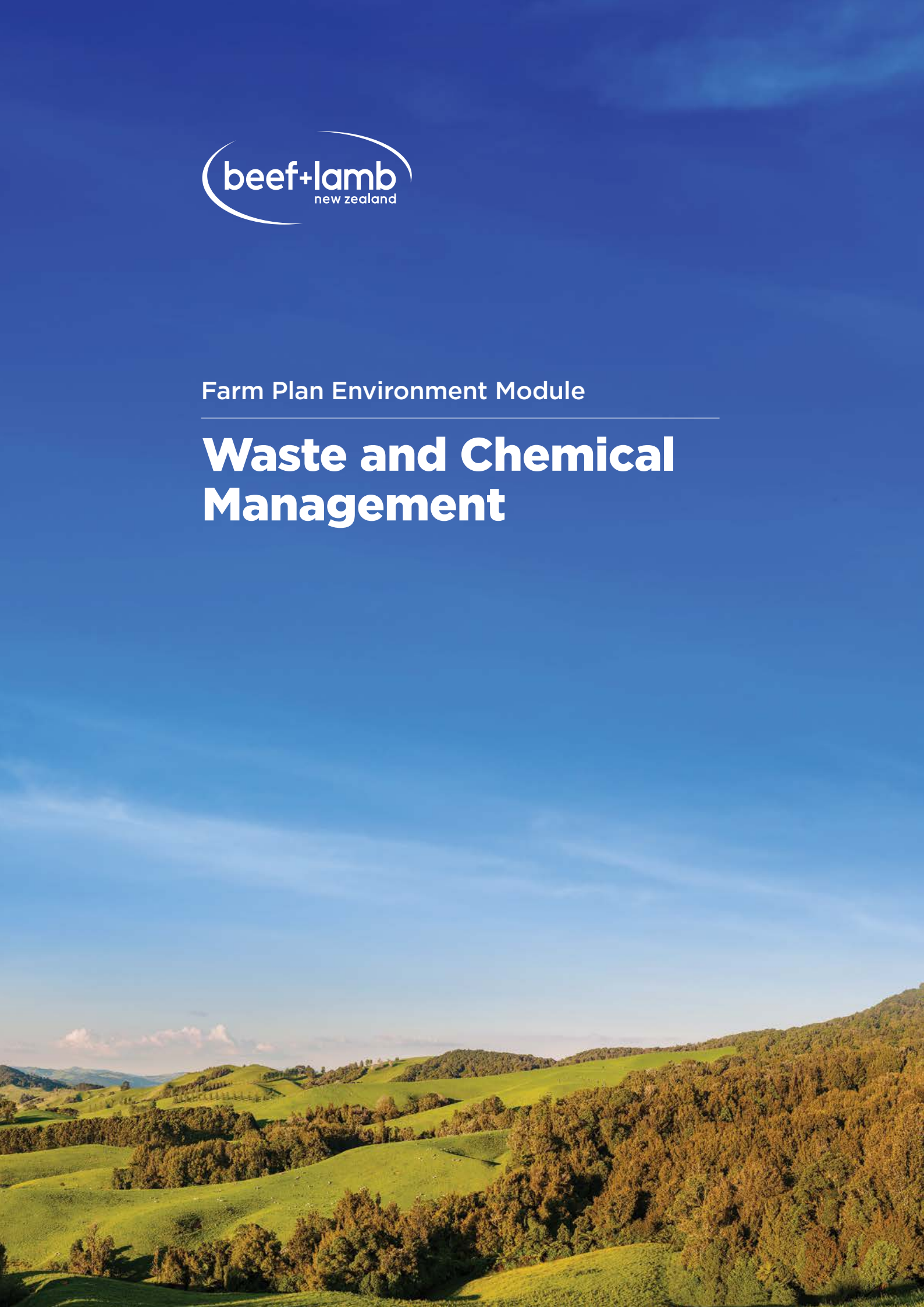
beef+lamb new zealand

Farm Plan Environment Module

Waste and Chemical Management



Chapter Overview

This chapter is broken down into 6 steps outlined below. Each step includes background information as well as a completed example of any templates associated with that step.

Blank templates are included with hard copies of the resource or can be downloaded from **beeflambnz.com/farmplan**.

STEP 1 – Waste and Chemical Management Goals

Identify any goals you have for managing waste and chemicals on your farm. These may link back to any goals completed in the Introduction chapter.

Template WC1 – Waste and Chemical Management Goals

STEP 2 – Assessment of waste sources and volumes

Identify and record the current sources and volumes of waste on your farm.

Template WC2 – Waste Source and Volume Assessment

STEP 3 – Compliance requirements

Identify and record any specific compliance requirements for waste and chemicals on your farm.

Template WC3 – Compliance Requirements

STEP 4 – Identify Risks, Opportunities and Management Actions

Identify possible risks and opportunities from waste and chemicals on your farm. Assess the level of risk using the risk assessment matrix. Identify management actions that have been or could be taken. Table 5.1 provides guidance.

Template WC4 – Waste and Chemical Risk Assessment and Management Actions

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STEP 5 – Action Plan

Building on the management actions identified in Step 4 document a waste and chemical action plan with details of those things that need to be implemented.

Template WC5 – Waste and Chemical Action Plan

STEP 6 – Monitoring and Review

Maintain records of your waste volumes and chemical use and at least once a year reflect on what's working, what can be improved and update your action plan.

Additional supporting resources are available at **beeflambnz.com/farmplan** and on the B+LNZ Knowledge Hub.

STEP 1 – Waste and Chemical Management Goals

Waste is potentially generated from farm activities. A variety of natural and synthetic chemicals can be used on farm for many reasons such as animal health, plant and animal pest control and improving pasture quality. It is important to understand the risks associated with waste products, and chemical use and how they can be managed and identify ways to reduce, reuse and recycle.

There are many reasons beyond regulatory compliance why managing waste and chemicals can be beneficial, such as:

- It reduces pollution incidents in waterways, groundwater and soil on-farm.
- It reduces the impact to human and animal health
- It decreases the amount of waste on-farm by reducing, reusing and recycling.
- Can reduce costs and improve efficiencies.
- It demonstrates good farm management practices, social responsibility and environmental awareness and means a smoother audit process when completing an on-farm audit certification programme.
- It creates long-term sustainability of the land.

Identify any goals or objectives you have for managing waste and chemicals on your farm. Refer to any overall farm vision, values and goals already completed in the Introduction chapter.

Below are some examples that might help. You may also have objectives from your Regional Council to include in your Farm Plan.

- To ensure all eligible products are recycled
- Reduce the volume of waste generated on farm and increase the proportion of waste that is reused or recycled
- Manage risk from contaminant sources such as fuel supplies, chemical mixing areas or fertiliser loading areas.
- Ensure all chemical use and storage is in accordance with manufacturer's guidelines.
- To minimise the number of potential contamination sources on farm
- To manage waste and chemicals on farm in a way that contamination of air, soil and water is minimised.

Record your waste and chemical management goals in **Template WC1** in "Our Plan", example below.

Example

WC1

Waste and Chemical Management Goals

Reduce the volume of waste generated on farm and increase the proportion of waste that is reused or recycled
Manage risk from contaminant sources such as fuel supplies, chemical mixing areas or fertiliser loading areas.

Blank templates can be found in **Our Plan** section and at **beeflambnz.com/farmplan**

STEP 2 – Assessment of waste sources and volumes

Sources of waste can come from different areas of the farm. Understanding your current waste sources and volumes is an important step in identifying opportunities and ways to reduce, reuse and recycle, and provide a baseline to monitor against.

Some examples of sources of waste include:

Offal
- Dead animals
- Slink skins
- Other offal

Organic materials
- Calf shed waste
- Natural fibres, potting mix, and green compost
- Household food waste
- Untreated wood
- Greenwaste

Chemical and Biohazard materials
- AgriChemical containers or drums
- Vet medicine containers and packaging
- Fertiliser or seed bags
- Unused AgriChemicals or vet medicine

On Farm Rubbish
- Plastic silage or baleage wrap, feedbags or netting
- Plastic containers or drums
- Plastic pots, trays, bags, and pipes
- Paper and cardboard
- Batteries
- Rubber gloves
- Scrap metal
- Treated timber
- Tyres
- Used oil
- Paint
- Household waste

It is also useful to track the type and volume of chemical use on farm over time. This includes products such as: fuel, agrichemicals and fertiliser.

Identify the current sources of waste on your farm and include any known or estimated volumes. Record this in **Template WC2** in "Our Plan". You may also wish to include additional notes for future reference. An example is provided below. If you don't already record the chemicals and volume of each used on farm somewhere else this is a good place to include that.

Waste Source and Volume Assessment

Waste Type or Chemical Used	Volume			
	Date *2021*	**Notes**	**Date**	**Notes**
Dead animals	*45 lambs 12 ewes 2 cattle*	*Large storm in September*		
Plastic silage or baleage wrap	*4 bags of bailage wrap*	*Recycled via plasback*		
Plastic containers or drums	*21 (20L) 4 (200L)*	*Recycled via AgRecovery*		
Tyres	*8*	*Reused on silage stack*		
Scrap metal	*1 trailer load*			
Biohazard materials		*All vaccine needles disposed of via vet*		
Household waste		*Composted or recycled wherever possible*		
Batteries	*2*			
Petrol	*3,000 L*	*Only includes on farm use from farm tank*		
Diesel	*5,000 L*	*Only includes on farm use from farm tank*		
Fertiliser	*100 t Lime 5 t Urea 50 t Super*			
Glyphosate	*60 L*			

Example

WC2

Blank templates can be found in **Our Plan** section and at **beeflambnz.com/farmplan**

STEP 3 – Compliance requirements

Your local Regional and District Council may have specific rules relating to waste and chemical management that you should be familiar with and comply with. These may include requirements around the storage and disposal of potential contaminants.

For example, some councils may have requirements in relation to the size and number of silage pits or offal pits, their location in relation to water bodies, ground water, dwellings, boundaries etc. and around fencing, covering, odour management etc. Resource consents may be required if the nominated conditions cannot be met. Check the applicable council websites for more information and reach out to them for guidance where needed.

There are also national requirements such as through the Waste Minimisation Act under which products including: agrichemicals and their containers, farm plastics, tyres and more have been declared priority products for regulated product stewardship.
List resource consents and other relevant compliance documents in **Template WC3** in "Our Plan". An example is provided below.

Example

WC3

Compliance Requirements

Compliance document	Requirements	Notes	Date
Council Resource consent No xxx	*Silage pit in back block*	*Consent expires June 2030*	

Blank templates can be found in **Our Plan** section and at **beeflambnz.com/farmplan**

STEP 4 – Identify Risks, Opportunities and Management Actions

Risk Identification

There are a few risks that can result from waste and chemical management relating to both environmental contamination and human and animal health.
Table 5.1 identifies some of the common risks associated with waste and chemical management. You can use this for ideas when completing **Template WC4** in "Our Plan". An example is provided after Table 5.1.

Risk Assessment

For each risk asses the likelihood and consequence and use the Risk Assessment Matrix to determine if the risk level is high, medium or low. The risk level can then be recorded in **Template WC4** in "Our Plan".

Risk Assessment Matrix

Likelihood	Consequence		
	Slight	Serious	Major
Low	Low	Low	Medium
Medium	Low	Medium	High
High	Medium	High	High

Management Actions

The final column in Table 5.1 provides examples of some possible management actions that could be taken to manage the various risks identified. In addition to the examples provided in **Table 5.1** some other general considerations for waste and chemical management might include:

- Avoid the creation of waste where possible
- See if there are ways for items to be reused for another purpose
- Recycle or dispose responsibly
- Reducing volumes of chemical used

Then for each management action categorise it as: completed, ongoing or new.

- Completed actions require no ongoing implementation, you may like to note the location if applicable.
- Ongoing actions are actions you are currently doing or have done and need to continue doing into the future.
- New actions are those you plan to start.

Record your management actions and if they are completed, ongoing or new in **Template WC4** in "Our Plan". An example is provided after Table 5.1.

Table 5.1 Risks and Management Options for Waste and Chemicals

Area/Sources	Risks	Examples of possible management actions
Offal pits/ holes	• Risk of losses from leaching to groundwater, or run-off to surface water • Risk of soil contamination • Risks to human and animal health	• Offal pits/holes located at least 30m away from waterways (there may be a legal distance requirement) • Offal pits/holes not at risk of a rising water table – bottom of offal pit should be at least 1m above the seasonally highest water table level (there may be a legal depth requirement) • Offal pits/holes covered and fenced off to ensure exclusion of children, dogs and livestock • Offal and other waste kept separate • Cook offal for dogs • Dead animals buried (away from waterways and not posing a risk to groundwater or animal health), or a collection service is used or they are composted with the compost only to be used for planting projects or domestic garden
On-farm rubbish	• Risk of losses from leaching to groundwater, or run-off to surface water • Risk of soil contamination • Risk of unsustainable land use from non-biodegradable waste build-up • Risk of injury to animals • Risk of air pollution from burning particularly from plastics, tyres or treated timbers • Biosecurity risk – spreading of plant diseases and weeds	• Reduce, reuse, recycle wherever possible • Track waste volumes and identify opportunities for reuse and recycling • Recycle chemical containers and other packaging utilising programmes such as AgRecovery • Recycle silage and baleage wrap and netting utilising programmes such as Plasback • Paper and carboard recycled or composted • Store return or recycling schemes utilised where available eg for paint, used oil, fertiliser bags etc. • Scrap metals sold • Rubbish disposed of on farm is kept separate from offal • Household waste recycled • Household scraps fed to pigs, worms or composted
Biohazard material	• Risk of animal or human injury from incorrectly stored needles • Risk of illness or injury from exposure to biohazard	• Injection needles and other sharps must be disposed of in an environmentally safe manner. They should be stored in a sealed, safe and labelled container. (Your veterinarian may be able to assist with disposal of damaged and used needles)
Silage pits or other supplement storage	• Risk of losses from leaching to groundwater, or run-off to surface water • Risk of soil contamination	• Located at least 30m away from waterways (there may be a legal distance requirement) • Silage pit sealed • Run-off from silage pit contained (e.g. sump) or diverted to a paddock with appropriate soils rather than a waterway
Effluent	• Risk of run-off of faecal matter to waterways from yards, tracks or other areas where stock are concentrated for a period of time	• Run-off contained (e.g. sump) or diverted away from waterways such as to a paddock

Table 5.1 Risks and Management Options for Waste and Chemicals *continued*

Chemical storage	• Risk to humans or animals from chemical spills or chemical residue if inappropriately stored • Risk of waterway and soil contamination	• Farm staff handling chemicals have the appropriate training and certification • Animal health products stored appropriately • Chemicals are stored safely in a secure location • Fertiliser bins are located away from waterways and are not at risk of leaching if they get wet • Fuel is stored safely and secured with a drip tray to prevent soil contamination
Chemical management	• Risk to humans or animals from chemical spills or chemical residue if inappropriately used • Risk of waterway and soil contamination	• Spray plan in place including advice on appropriate usage and application • Farm staff handling and applying chemicals have the appropriate training and certification • Appropriate PPE is worn when handling chemicals • Chemical mixing area is well-ventilated with a good water source and located well away from surface water • Unwanted chemicals disposed of appropriately (your Regional Council can advise on this) • Chemical containers must be triple rinsed and disposed of appropriately (e.g. AgRecovery) • Old dip sites or chemical disposal sites on-farm are sealed and marked on a map
Waste Water	• Biosecurity risks • Weed contamination	• Waste water is reused where possible • Any waste water is filtered or treated if biosecurity risks are likely to be present

Waste and Chemical Risk Assessment and Management Actions

Area	Risk or Opportunity	Risk level	Management Actions (already completed or future actions)	Action completed, ongoing or new
Offal pits/holes	*Losses from leaching to groundwater, or runoff to surface water*	*Low*	*Offal pit located away from waterways, fenced and covered*	*Completed*
On-farm rubbish	*Opportunity – minimise the creation of waste and reuse or recycle wherever possible*		*Chemical containers recycled via AgRecovery* *Baleage wrap stored and recycled via plasback* *Household waste recycled or composted wherever possible*	*All ongoing*
Effluent from woolshed and runoff from yards	*Run-off of faecal matter to waterways from woolshed and yards*	*Low*	*Woolshed cleaned out and manure sold for school fundraiser*	*New*
Silage pits	*Losses from leaching to groundwater, or runoff to surface water*	*Low*	*Silage pit has a bund and sump which is diverted into trees away from the stream*	*New*

Example WC4

Blank templates can be found in **Our Plan** section and at **beeflambnz.com/farmplan**

STEP 5 – Action Plan

Building on the management actions identified in step 4, Template WC4, document a waste and chemical action plan by completing **Template WC5** in "Our Plan". This includes details of those actions identified as new or those that still need to be implemented. Include the action to be taken, location, priority, assigning a timeframe and a person responsible. An example is provided below.

Waste and Chemical Action Plan

Action	**Location,** Land Management Unit or paddock	**Priority** (Low, Medium, High)	**Planned Timeframe**	**Person responsible** and others involved	Date completed and evidence of completion
Woolshed cleaned out and manure sold for school fundraiser	*Woolshed*	*Low*	*By March 2022*	*Jane*	
Build a bund and sump for silage pit which is diverted into trees away from the stream	*Trees Block*	*Medium*	*By the start of summer 2022 when silage made*	*John*	

Example

WC5

Blank templates can be found in **Our Plan** section and at **beeflambnz.com/farmplan**

STEP 6 – Monitoring and Review

Ongoing monitoring of waste and chemicals on your farm will help you to keep track of any changes and find opportunities for ongoing improvements.

Throughout the year track your waste sources and volumes and chemical use and keep records

- Update **Template WC2** or whichever other method is easiest for you to record into with waste sources and volumes and chemical use.
- Keep notes on any key events or changes
- Keep any evidence such as receipts, invoices or records of volumes from any recycling or waste collection
- Take before and after photos for any projects in your action plan

At least annually reflect and update your plan

Some questions you may want to reflect on:

- What worked well?
- What areas need improvement?
- Any learnings to apply?
- Are your goals still the same?
- Have your waste amounts increased, reduced, or remained the same? Has this differed across the different waste types?
- Has your chemical use varied? Any key reasons why?
- Are there new ways you can reduce or manage waste?

Make sure your records are up to date and record any reflections and update **Templates WC4 and WC5** in “Our Plan” with any new risks or actions you have identified.

For further information please see:

beeflambnz.com/farmplan and the B+LNZ Knowledge Hub.

The other chapters in the B+LNZ Farm Plan: Environment Module are:

- Introduction
- Managing soil health
- Freshwater ecosystem health
- Integrating native biodiversity
- Responding to a changing climate
- Forage cropping management


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