



KEEP IT CLEAN

Machinery hygiene guidelines and logbook to prevent the spread of pests and weeds

Machine make and model:

.....

.....

.....

.....



**Local Government
New Zealand**
te pūtahi matakokiri



Ministry for Primary Industries
Manatū Ahu Matua



Produced by National Pest Control Agencies
(NPCA) in collaboration with:

Local Government Biosecurity Managers Group
Rural Contractors New Zealand
Federated Farmers
Ministry for Primary Industries

Published June 2013

National Pest Control Agencies
PO Box 11-461, Wellington
Email: npcaxtra@xtra.co.nz

ISBN 978-1-877474-54-5

NPCA Publication Code for ordering copies: A16

KEEP IT CLEAN

If you are you moving machinery or vehicles between properties ensure that you:

1. Clean your machine
2. Record the clean-down in your log book

Use the logbook pages at the back of this booklet. By keeping a logbook, you can show clients your ongoing commitment to good hygiene practices and provide a record to assist trace-back in case of new pest or weed invasions. Use the guidelines in this booklet to find out more:

Why is it important to keep machinery clean?	02
When to clean machinery?	04
How and where to clean machinery?	05
Other ways to limit pest spread?	07



WHY IS IT IMPORTANT TO ‘KEEP IT CLEAN’?

The spread of pests and weeds by vehicles, machinery and equipment has significant consequences and is an ongoing pest management problem.

Recent examples of unwelcome new arrivals include the devastating impact of PSA on kiwifruit production, and the appearance of Chilean needle grass in parts of the South Island. Many other established pests continue to quietly expand their range, such as field horsetail, alligator weed, hornwort, Manchurian wild rice, and *Phytophthora taxon Agathis* (Kauri dieback).

Most pests in New Zealand currently occupy only a tiny fraction of their potential range. Moving pests to new places – even if unintentionally – will make a bad situation worse.

Machinery and vehicle movements are not the only culprit responsible for much of the ongoing spread of pests in New Zealand’s productive and environmental landscapes. Other significant pathways such as movements of stock, stock feed, and rock aggregates are also important¹.

However, machinery movements pose a persistent high risk in pest spread, with at least 80 pest species known to be typically moved by machinery².

Professional operators in our rural environment generally have a strong sense of environmental stewardship; however, there is room for improvement in taking responsibility for potential effects when moving machinery around the countryside.

Until now, our Australian neighbours have perhaps taken this aspect of preventative pest management more seriously. Tasmanian agricultural contractors, for instance, adopt a Code of Practice³ and simple logbook system for weed hygiene, and their dedication to the initiative is ongoing.

1. MAF Biosecurity New Zealand (2010) Slowing pest spread. Domestic Pathways of Human Mediated Pest Spread. MAF Biosecurity New Zealand Technical Paper No: 2010/22
2. MAF Biosecurity New Zealand (2012) Pilot risk analysis for the domestic machinery pathway. Report prepared by Sandy Toy for the Ministry of Agriculture and Forestry under contract.
3. The Tasmanian Guidelines can be downloaded at <http://www.dpiw.tas.gov.au/inter.nsf/Publications/LJEM-5ZM3LJ?open>



Soil on a bulldozer in Canterbury was found to contain seeds from at least 73 different species.



Sign in Tasmania warning contract harvesters of the possibility of machinery inspections by police or weed officers.

(Photo courtesy of B. Sindel)

WHEN TO CLEAN MACHINERY

Machinery hygiene must be practiced any time a machine is moved between properties. Any form of plant or soil contamination has a real potential of harbouring pests or weeds.



(Photo courtesy Marlborough District Council)

A basic standard of machine hygiene should apply for all machinery movements but some scenarios pose a particularly high risk and should be treated with extra care, including;

- Areas where pest infestation is known. Ask the landowner whether there are any known pest issues;
- Any long distance machinery transfer. Inter-regional or inter-island machinery movements should always be subject to the very strictest hygiene standards;

- Any ground-engaging machinery (soil can contain seed and viable fragments of numerous weed and disease species);
- Any waterway-engaging machinery (aquatic environments are particularly pest prone – yet many pests can only move between catchments with our help!);
- Wet machinery (disease, spores, fungus and aquatic pests survive transfer more easily in damp environments);
- Where a place is a “restricted place” under the Biosecurity Act 1993 due to a serious pest issue (there will be signage to this effect, and the occupier will know);

However, basic hygiene standards should not be allowed to slip where no particular problem is known. Rather, there needs to be strong evidence that an area or a property is “pest free” before reduced hygiene measures should be considered.

HOW AND WHERE TO CLEAN MACHINERY

It is the responsibility of the operator to do whatever is required to make sure that machinery is clean before it is moved to another property.

The standard to achieve is: no visible soil or plant matter remains which might spread pests or weeds

These guidelines provide some general guidance on how to achieve this desired outcome but do not include detailed procedures for cleaning the wide range of different machinery types that operators use. It is the operators' responsibility to work out what, specifically, is required for their machine.

Ideally, machinery wash-down should occur on the property prior to movement, thereby containing any problems at source. Alternatively, machinery may be cleaned in a built-for-purpose wash-down facility, but care should be taken to ensure there is not a risk of pest spread during transport to that facility.

Work with the occupier to agree to a suitable wash-down site:

- Within, or near any areas where weeds or pathogens need to be contained;
- Away from any watercourse or water body, a buffer of at least 30m is desirable to ensure runoff into waterways is avoided;
- Away from muddy areas, preferably a hardstand area, or well grassed or gravelled sites;
- Away from potential hazards, e.g. powerlines;
- Where effluent runoff cannot be managed to an acceptable standard, bunding may be required.

Machinery includes associated implements, attachments, and service vehicles.

Equipment used to clean machinery will depend on the type of machinery and facilities available. Cleaning can be by any one or a combination of:

- Physical removal
- Pressure water
- Pressure air
- Vacuum cleaning
- Disinfection.

Be careful not to damage sensitive equipment, particularly with pressure water. Consult and comply with manufacturer recommended cleaning methods if in doubt.



For general cleaning procedures the following guidelines apply.

- Remove only those cover plates etc that can be quickly and easily removed and replaced.
- No clods of dirt or loose soil should be present after washdown. Smearred soil stains and soil firmly lodged in difficult to access areas are acceptable (except for known high risk scenarios).
- Radiator, grills and the interior of vehicles should be free of accumulations of seed and other plant material.
- Check the machinery inside and out, for where dirt or plant material including seeds are lodged. Pay attention to awkward places such as the underside, radiators, between dual wheels, spare tyres, hollow sections, foot wells and bumper bars.

Make Sure: no visible soil or plant matter remains that might spread pests or weeds.

OTHER WAYS TO LIMIT PEST SPREAD

Keeping machinery clean is the central theme to managing pest spread by machinery. Further practical risk mitigation measures available to the professional operator include the following.

Time

Especially for aquatic and drainage machinery, allowing sufficient drying time after cleaning will kill many aquatic pest species, e.g. didymo. Ideally, machinery will be allowed to stand for a period of time. Hard stand areas in direct sunlight are ideal.

Local knowledge

While all machinery contamination should be considered “guilty until proven innocent” and managed accordingly, there will be times when special care is needed due to a known high-risk pest infestation.

Biosecurity officers from your regional council will be able to provide specific guidance on significant high-risk pests in the environment where you are working. Learn how to recognise these pests. Furthermore, keep a look out for species you have not seen before that seem out of place and notify the regional council – they could, potentially, be new pests! Your observations will be appreciated.

Remember it is a legal offence to knowingly spread most pest species.

When an area is known to be infested with a high-risk pest, consider options with the occupier and, in some cases, your regional council biosecurity officers. Some options include:

- Work infested areas last, so time is available for a thorough machinery clean-down.
- Encourage occupiers to work infested areas with “on farm” machinery.
- Use dedicated machinery for working the infested sites (e.g. an older machine which is rarely used otherwise).
- When working on a known contaminated site undertake operations outside of critical times, e.g. outside peak seeding times.
- Avoid moving potentially contaminated machinery over ground which is suitable for weed establishment.
- Ultimately, consider declining the work or changing to an alternative land use (e.g. in some cases crops cannot be harvested due to extensive weed or pathogen infestation).



This population of Manchurian Wild Rice is believed to have been established via contaminated machinery when the nearby railway line was constructed.



Manchurian Wild Rice growing in an oxidation pond on a dairy farm. This site would have been established when the ponds were created.
(Photos courtesy of C. Harris, Northland Regional Council)

MACHINE CLEAN-DOWN LOGBOOK

Use the following pages to record your machine clean-downs.

- Keep one log book for each machine. Enter the make and model on the front cover.
- After cleaning, record when and where the machine was cleaned.
- If the machine was cleaned away from where it was used (e.g. your depot), record the last property worked in the 'Property' column.
- These logbooks can be downloaded (free) or hard copies purchased at www.npca.org.nz.



Date	Operator	Machine	Property

Shifting pests and weeds to new places can have severe and long term costly impacts.

Date	Operator	Machine	Property

Learn to recognise significant pests and weeds in your area (your regional council can help).

Date	Operator	Machine	Property

Understand high risk scenarios (e.g. known weed infestations, long distance machine movements).

Date	Operator	Machine	Property

Learn to recognise significant pests and weeds in your area (your regional council can help).

Date	Operator	Machine	Property

Understand high risk scenarios (e.g. known weed infestations, long distance machine movements).

Date	Operator	Machine	Property

Keep it clean.

Date	Operator	Machine	Property

Shifting pests and weeds to new places can have severe and long term costly impacts.

REMEMBER

- **Shifting pests and weeds to new places can have severe and long term costly impacts.**
- **Learn to recognise significant pests and weeds in your area (your regional council can help).**
- **Understand high risk scenarios (e.g. known weed infestations, long distance machine movements).**
- **Document your own machine specific cleaning procedure/checklist.**
- **Keep it clean**
- **Make Sure – that no visible soil or plant matter remains that might spread pests or weeds.**

