



The Otago water quality rules

Silage and compost

*The rules:
what you need
to know*

The rules around silage and compost leachate are tough and a number of practices are prohibited.

Landholders breaching these rules will face enforcement action. In particular, you cannot let leachate from silage and compost get near or into waterways.

You must not feed out silage on the beds or banks or streams, rivers, lakes, or wetlands.

You should check the location of your silage or compost pit to make sure it complies with the rules on distances from waterways, neighbours, roads, and public areas.



A well set up silage system with collection ponds.

Leachate from silage (including baleage) and compost is highly damaging if it gets into waterways. Take steps now to make sure you comply with the rules and look after Otago waterways.

Prohibited activities – discharge of leachate

Rule 12.C.0.2 Otago Water Plan

The Otago Water Plan prohibits the discharge of silage and compost leachate or effluent to:

- any waterway, including the bed, or to a drain or water race that goes to them or to coastal water;
- saturated land;
- land, if it results in ponding;
- land, if it results in an overland flow to a waterway, or coastal water, or to a drain (open or mole and tile drain system) or water race that goes to them;
- any bore or soakhole;
- land within 50 metres of any waterway, bore, or soakhole.

There are no excuses for not meeting these rules. Landholders breaching any of the rules will face enforcement action.

These rules also cover effluent management. See guide 3 in this series for more information.



Leachate leaking from a silage stack. Infrastructure to collect and manage this leachate must be installed to comply with the rules.

What other rules do I need to know about?

Other permitted activity rules applying to composting and silage production include these conditions:

SETBACK DISTANCES

- Compost and silage pits and stacks must be sited at least 100m horizontally from any well that is used to provide water for domestic purposes or drinking water for livestock.
- Compost and silage pits and stacks must be at least 50 metres horizontally from any waterway or coastal water and at least 50 metres horizontally away from a property boundary, excluding road boundaries.
(Waste Plan rule: 7.6.12 for composting, and rule: 7.6.14 for silage).

PRACTICE REQUIREMENTS

- The composting must be done on the property from which the bulk of the material is sourced.
- Silage production must be done on production land.
- Composting and silage production must not cause a nuisance. Odours must not be noxious, dangerous, offensive, or objectionable beyond property boundaries.
(Waste Plan rule: 7.6.12 for composting, and rule: 7.6.14 for silage).

FEEDING OUT

- You must not feed out silage or other stock food on the bed or banks of a waterway.
(Water plan rule: 13.5.1.8A).

CONSTRUCTION

- Compost and silage pits need to be sealed so that leachate from silage or composting is contained. There must be no groundwater seepage into a pit.
(Waste Plan rule: 7.6.12 for composting, and rule: 7.6.14 for silage. Water plan rule: 12.C.0.2) If you want to undertake silage and composting activity and cannot meet these rules and conditions, you must obtain a resource consent.



Silage leaching to a waterway. This is a prohibited activity.



Compost heap leaching to a waterway. This is prohibited.

Who do the rules apply to?

They apply to everyone using silage (including baleage) or composting as part of their land use.

What happens if I breach the rules?

Landholders breaching the rules will face ORC enforcement action. The action taken will depend on the circumstances of the breach. A warning may be given, an infringement notice issued, or a prosecution taken in the Environment Court, which may result in a criminal conviction being entered and a large fine imposed.

Why is leachate a problem?

Silage leachate can start flowing from stacks within 24 hours of construction, and continue for up to eight weeks as the silage compacts and ferments.

On average leachate is 200 times stronger than raw sewage, 40 times stronger than dairy farm wastewater and eight times stronger than piggery waste.

Leachate from silage and composting processes causes severe de-oxygenation in waterways, resulting in major adverse effects on water quality, fish, plants, and other aquatic organisms.

Leachate is highly acidic, contains high levels of nutrients, and ammonia concentrations likely to be toxic to fish. High nutrient levels can also cause significant algal blooms.



Baled silage, including baleage, can also leak effluent. Ensure bales are sited at least 50m away from waterways.



Silage leachate entering waterways can cause extensive damage. Do not let it happen.

Need more information?

The detailed rules can be found in the *Regional Plan: Water for Otago*. Follow this symbol on our website.



Check out these other guide sheets:

3. Effluent management

8. What is a river?

For further information see our website.

You can email us on:
waterqualityrules@orc.govt.nz

Phone us on

0800 474 082

The information in this pamphlet is intended to provide guidance only and is not a substitute for obtaining professional advice.

Refer to the Otago Regional Plan: Water for Otago for full details of the water quality rules.



This is a well designed silage stack. It is lined, sealed and slopes towards a drainage channel leading to a suitably sized collection system. A stormwater diversion is also in place.



Good practices

Wilting of herbage

Wilt the silage before adding it to the silo or stack. This produces less leachate.

Site choice

Choose a site for a silage pit or compost stack that will not leach into waterways or low-lying areas. Pits or stacks should be at least 50m from waterways, and well away from bores, soakholes, and drains.

Good construction

Line and seal silage pits and stacks so they are watertight. Slope sealed areas towards the drainage channel for your collection system with enough available storage to cover the life of the stack or pit. Ensure stormwater diversion is put in place.

Cover

Cover silage stacks, and seal edges firmly during and immediately after filling. Poor covering lets in rain and air, which increases leachate and decreases silage quality. Keep the cover as intact as possible when you start to feed out.

Minimise the risk of leachate discharge from baled silage

Wilt the material and site bales away from waterways, bores and soakholes.
Feed out silage well away from waterways.

Disposal of agricultural plastic wrap

Dispose of agricultural wrap by recycling it. Plasback and the Waitaki Resource Recovery Park provide collection and recycling services for bale wrap in Otago. Do not burn silage or baleage wrap.

Land application

Follow good practice for effluent application (see guide sheet 3 in this series).

Many silage or composting systems in Otago need to be improved to meet the rules. Check whether your system is up to scratch. If not, improve it without delay.