



Government of **Western Australia**
Department of **Health**

Garden Soil Regulation Review

Managing the public health risks of *Legionella longbeachae* associated with commercial garden soils: A review of the Western Australian *Health (Garden Soils) Regulations 1998*

December 2018



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Have your say

The Department of Health (DOH) is seeking feedback on proposed options for managing the public health risks associated with commercial garden soils in Western Australia (WA).

You are invited to read through this discussion paper and provide your feedback by completing the online survey.

Stakeholder input is critical in helping to identify the most appropriate management response or identify new options not considered as part of this proposal, and to ensure the impacts on consumers, business and government have been effectively considered.

Where to send your feedback

Online:	WA Health online consultation hub https://consultation.health.wa.gov.au/
Email:	publichealthact@health.wa.gov.au
Post:	Garden soil regulation review Science and Policy Unit Environmental Health Directorate Department of Health PO Box 8172 Perth Business Centre, WA 6849

Submissions close

The closing date for submissions is 1 February 2019.

Disclaimer

The views expressed in this document may not, in any circumstances, be interpreted as stating an official position of the Department of Health. This document is intended to serve as the basis for further discussion with interested stakeholders.

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Glossary

Garden soil	means any composted organic material produced with or without soil made to be used in or around a house and includes potting mixes, composts, soil conditioners, mulches and soils for landscaping and general garden use;
Package	in relation to garden soil, means anything that contains or surrounds the garden soil, whether or not the garden soil is completely enclosed.
DOH	Department of Health of WA
<i>Legionella pneumophila</i>	Refers to the bacteria that cause Legionnaires' Disease associated with air-handling systems such as cooling towers.
<i>Legionella longbeachae</i>	Refers to the bacteria that cause Legionnaires' Disease associated with potting mixes and garden soils.



1 Executive summary

Commercial garden soils which include packaged potting mixes and bulk soil supplies have been associated with a number of cases of Legionnaires' Disease in WA, as a result of exposure to the bacteria *Legionella longbeachae*. This public health risk is currently managed under the [Health \(Garden Soil\) Regulations 1998](#), (Garden Soils Regulations) which requires warning labels to be included on packaged materials or for signage to be displayed in prominent locations at bulk soil suppliers.

In the lead up to stage 5 of implementation of the [Public Health Act 2016](#) in WA, the Department of Health (DOH) must review the Garden Soil Regulations to determine whether this public health risk must continue to be regulated under the framework provided by the Public Health Act, or whether the risks can be effectively managed through an alternative approach such as other State legislation, a guideline or a local law.

This paper identified two options for consideration for WA:

- **Option A: Enable the industry to self-regulate by providing an industry guideline.**
Repeal the existing regulations and enable the industry to self-regulate by providing an industry guideline or Code of Practice outlining acceptable practices in accordance with relevant Australian Standards. A person will not be taken to have breached the general public health duty if they have acted in a manner that is consistent with the guideline or other generally accepted practices. Where a person is in breach of the general public health duty, further action such as the issuing of an improvement notice or enforcement order may be considered under the Public Health Act.
- **Option B: Develop new regulations to manage public health risks associated with garden soils**
It is proposed that new regulations would adopt the most up to date labelling and signage requirements outlined in the relevant Australian Standards 4419 - 2003, as well as specify any enforcement responsibilities for local government that allow the issuing of infringement notices for non-compliance. The application of the general public health duty would also apply in this circumstance.

Stakeholder input is critical in helping to identify the most appropriate management response or identify new options not considered as part of this proposal, and to ensure the impacts on consumers, business and government have been effectively considered.



2 Purpose of this paper

This discussion paper will focus on reviewing the public health risks associated with contracting Legionnaires' Disease from commercial packaged and bulk garden soils.

The need for this review

In the lead up to stage 5 of implementation of the [Public Health Act 2016](#) in WA, the Department of Health (DOH) must review the [Health \(Garden Soil\) Regulations 1998](#) (Garden Soil Regulations) to determine whether this public health risk must continue to be regulated under the framework provided by the Public Health Act, or whether the risk can be effectively managed through an alternative approach such as other State legislation, a guideline or a local law.

The purpose of the Public Health Act is to protect, promote and improve the health and wellbeing of the public of WA and reduce the incidence of preventable illness. Section 304 of the Public Health Act provides broad powers for making regulations and allows regulations to authorise, prescribe, require, prohibit, restrict or otherwise regulate a number of matters. [Appendix 1](#) provides an overview of the regulatory mechanisms provided for under the Public Health Act.

Red tape reduction

A key consideration in the development of any proposed regulation by the DOH is alignment with the State Government's [red tape reduction program](#) which aims to minimise unnecessary regulatory burden on industry. This is achieved by complying with the Department of Treasury Regulatory Impact Assessment (RIA) process, which is administered by the Better Regulation Unit.

This paper discusses the current management of risks associated with garden soils, and analyses the various options for managing this risk into the future.

The options presented in this paper comply with the RIA process by:

1. providing an overview of the public health risks associated with garden soils
2. reviewing current legislative and other acceptable practices enforced in Australia and internationally
3. reviewing what management processes work, and the limitations or lessons to be learnt from other legislation
4. outlining the advantages and disadvantages of a number of options to consumers, business and local and State governments.

3 Public health objective

The overall public health objective is to ensure appropriate risk management practices are in place to minimise the public's exposure to Legionnaires Disease associated with garden soils.

4 What is the public health risk?

Legionnaires' Disease is a serious and sometimes fatal form of pneumonia caused by exposure to *Legionella* species; *Legionella longbeachae* or *Legionella pneumophila*.

This paper will focus on the risks associated with the bacteria *Legionella longbeachae*.

Legionella longbeachae is the most common strain of *Legionella* bacteria in WA, and is associated with the use of garden soils.

Garden soils, as defined by the Garden Soils Regulations, include:

- potting mixes
- gardening soils
- mulches
- composts and
- soil conditioners.

Exposure to this species of *Legionella* may result in Legionnaires' Disease.

Although *Legionella longbeachae* is found in naturally occurring soils in the environment, this paper focuses on the risk of infection from using commercial potting mixes, composts and other bulk soils [1].

How *Legionella longbeachae* are spread is uncertain, but it is thought that they are breathed in or spread from hand to mouth. The bacteria can remain on hands contaminated by handling potting mix and other garden soils[3].

4.1 Symptoms

It usually takes 2 to 10 days after exposure for Legionnaires' Disease to develop. In most cases symptoms appear after 5 to 6 days. The early symptoms of Legionnaires' Disease are typically similar to severe 'flu-like' illness, and may include:

- fever
- chills
- muscle soreness
- headaches
- tiredness
- reduced appetite
- dry cough and shortness of breath.

Many people with Legionnaires' Disease are admitted to hospital for long periods and spend some of this time in intensive care. For a minority of sufferers, the disease is fatal. A small percentage may suffer some permanent disablement[3].

4.2 Susceptibility

Legionnaires' Disease tends to occur in people who:

- are over 50 years old
- are male
- have a history of smoking
- have heavy alcohol intake
- have long term medical conditions that weaken the body's immune system (such as cancer, lung disease, diabetes, and transplant patients) or
- are on immunosuppressant drugs.

Infection cannot be transmitted from person to person [3].

4.3 Notifiable diseases

Legionella longbeachae is a notifiable infection under the *Public Health Act 2016*. The Act requires a medical practitioner or nurse practitioner practitioner to notify the DOH if a patient is diagnosed with the disease.

Between 2007 and 2017 there have been **538** reported cases of *Legionella longbeachae* notified to the WA DOH (detailed in Figure 1). On average, this is around **54** diagnosed cases of infection by *Legionella longbeachae* each year [2].

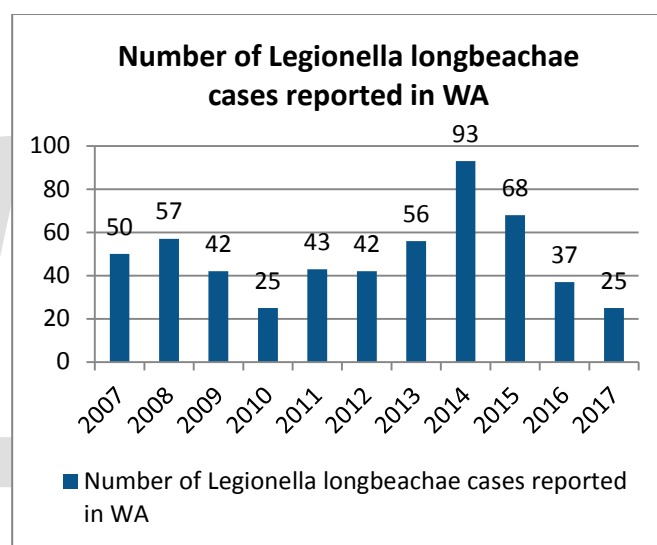


Figure 1 Number of *Legionella longbeachae* cases reported in WA from 2005 to 2017 [2]

Of the cases from 2007 – 2017 there were **11 deaths** during this period due to *Legionella longbeachae*. This equates to a 2% death rate. However, the number of reported *Legionella longbeachae* cases might not truly represent the total numbers because the infection may go undiagnosed in some people not presenting to a medical practitioner.

Between 2007 to 2017, there have been **538** cases of *Legionella longbeachae* notified to the WA Department of Health. This is an average of **54** cases each year.

11 deaths occurred during this time.

4.4 Community focus

Illness and deaths caused by Legionnaires' Disease can cause significant community concerns and are a highly emotive issue that may result in media attention. Although the DOH and local governments provide education to the public about the risks of handling potting mix and garden soils, there remain many individuals who contract the disease, unaware of such risks. There is no data available regarding complaints related to garden soils providers.

4.5 Public health risk assessment

A health risk assessment matrix was applied to assess the severity of risks associated with garden soils. Table 1 below provides the foundation as to why certain management responses, such as a regulation or guideline, may be necessary for different levels of risk. These risk levels are determined by applying the risk matrix model (Appendix 2), summarised in Table 2.

When undertaking a risk assessment for *Legionella longbeache*, it was important to consider the level of risk this disease presents to the overall WA population. The assessment takes into account that only a small minority of the population (males, aged 50 years and above, immunosuppressed) are more susceptible to contracting the disease. The disease is sporadic in nature, cases are single and unrelated and not transmissible. Additionally, *Legionella longbeache* is naturally occurring in the environment.

Table 1 Definition of risk levels

Risk Level	DOH management requirements
Very Low Public Health Risk	No further assessment required
Low Public Health Risk	Some mitigation/management may be required – no detailed assessment of health hazards required but addressed with routine controls
Moderate/Medium Public Health Risk	Substantial mitigation/management required – assessment required of health hazards
High Public Health Risk	Not an acceptable risk. The DOH needs to be involved in the management of high public health risks. Major mitigation/management (including offsets) may be required – assessment required of health hazards
Extreme Public Health Risk	Potentially unacceptable: modification of proposal required

Table 2 Public health risk assessment of risks associated with potting mix and garden soils

Health hazard	Who is at risk	Severity of impact*	Likelihood of impact**	Risk Level***
Exposure to <i>Legionella longbeache</i> by inhalation of aerosols or ingestion from garden soil or bagged potting mix	People who are over 50 years old; male, have a history of smoking, have heavy alcohol intake, have long term medical conditions that weaken the body's immune system; or are on immunosuppressant drugs. [1]	Moderate	Likely	Moderate

[5] * Health consequence table adapted from the 2011 Health Risk Assessment (Scoping) Guidelines, Department of Health WA (refer to Appendix 2)

** Risk likelihood table adopted from the 2011 Health Risk Assessment (Scoping) Guidelines, Department of Health WA (refer to Appendix 2)

*** Final risk rating from the risk matrix (refer to Appendix 2)

When applying the risk assessment model (Appendix 2) to the risks associated with garden soils summarised in Table 2, the assessment identified the risk level to be a **Moderate Public Health Risk**. This risk indicates that some level of mitigation or management may be required to ensure the hazard is effectively controlled.

The Chief Health Officer has a responsibility to administer the Public Health Act in accordance with its objects and principles. One of the key objects of the Act is to protect individuals and communities from disease and other public health risks and to provide, to the extent reasonably practicable, a healthy environment for all Western Australians.

Based on the moderate public health risk identified as part of the risk assessment process, the Chief Health Officer has a responsibility to ensure appropriate controls are in place which is proportionate to the level of risk to Western Australians where possible. However, contrary to this, control measures related to garden soils are difficult because there are very few risk management practices that can be applied. Current risk management practices are discussed in the following sections.

5 Current management of garden soil risks

5.1 Western Australia

Currently, no strategies are available to control or eliminate *Legionella longbeachae* growing in potting mixes or garden soils. In addition to this, soil in the natural environment may still present a risk when people are working in their gardens.

Preventative strategies for this disease are limited to educating the community on the safe use of garden soils, which includes publishing health warnings on bagged materials and providing signage near bulked products. Such warnings attempt to inform the consumer to take precautionary measures when handling garden soils.

These recommendations include:

- using a face mask
- wearing gloves
- avoiding inhalation of dust and aerosols and
- washing hands after using the material.

5.1.1 Health (Garden Soils) Regulations 1998

In WA, there are basic requirements that industry must adhere to under the [Health \(Garden Soil\) Regulations 1998](#) (the Garden Soil Regulations). These regulations came into operation on 1 July 1998. WA was the first and only Australian State to adopt a regulatory approach. This was partly attributed to WA recording the highest number of *Legionella longbeachae* cases across Australia, which initiated a risk management response by the DOH. At this time there were no benchmark risk interventions, and a lack of evidence on whether there were specific sources of infection. For example, it was not known if certain brands of potting mix or commercial soils presented more risk than others.

Key provisions of the Garden Soil Regulations are outlined in Table 3. These provisions require:

- Warning labels to be included on all packaged garden soils
- A warning notice to be provided to people who purchase bulk unpackaged soil
- A warning notice to be displayed where bulk unpackaged soils are sold

The Garden Soil Regulations define **garden soil** as any composted organic material produced with or without soil made to be used in or around a house and includes potting mixes, composts, soil conditioners, mulches and soils for landscaping and general garden use. **Package**, in relation to garden soil, means anything that contains or surrounds the garden soil, whether or not the garden soil is completely enclosed.

Control measures are difficult when managing the public health risk related to garden soils because there are few risk management practices that can be applied.



Government of Western Australia
Department of Health

Potting mix

Safe handling instructions

Potting mix contains micro-organisms that may be harmful for your health

Avoid contracting illness from potting mix:

- use a face mask
- wear gloves
- allow it to sit outdoors overnight
- wash your hands thoroughly after use.


Health information for Western Australians

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INVASION 100118

Figure 2 DOH posters advising the public on the safe handling of garden soils

Table 3 Key provisions of the Garden Soil Regulations

Current requirements of the garden soils regulations	
4. Application	
	These regulations apply to all districts as if they were local laws made under the Act.
5. Garden soil declared hazardous	
	Garden soil is declared to be a hazardous substance.
6. Warning notice on packaged garden soil	
	(1) A person who sells garden soil in a package must ensure that warning notice 1 or warning notice 2 is printed on or adhered to the exterior surface of the package.
	(2) The warning notice must be written in letters that are —
	(a) not less than 4.5 mm in height; and
	(b) clearly visible against the background.
7. Warning notice to be given to purchaser of unpackaged garden soil	
	(1) A person who sells garden soil other than in a package must ensure that warning notice 1 or warning notice 2 is given to the purchaser before or upon the receipt of the garden soil by the purchaser.
	(2) The warning notice must be written in letters that are —
	(a) not less than 3 mm in height; and
	(b) clearly visible against the background.
8. Warning notice at a place where unpackaged garden soil is sold	
	(1) A person who sells garden soil other than in a package must ensure that warning notice 1 is clearly visible to any person entering or exiting the place from which the garden soil is sold.
	(2) The warning notice must be written in letters that are —
	(a) not less than 50 mm in height; and
	(b) clearly visible against the background.
9. Warning notice not required for plants in garden soil	
	Nothing in these regulations requires warning notice 1 or warning notice 2 to be given in relation to the sale of a plant growing in a container of garden soil.
10. Offences and penalties	
	(1) A person who contravenes a provision of these regulations commits an offence and is liable to —
	(a) a penalty which is not more than \$1 000 and not less than —
	(i) in the case of a first offence, \$100;
	(ii) in the case of a second offence, \$200; and
	(iii) in the case of a third or subsequent offence, \$500;
	and
	(b) if that offence is a continuing offence, a daily penalty which is not more than \$100 and not less than \$50

Schedule 1 of the Garden Soil Regulations specifies the exact wording to be provided on warning labels.

Warning notice 1

Health Warning

Garden soils contain micro-organisms that may be harmful to your health.
Always wear gloves, keep damp while in use, avoid inhaling the mix and wash your hands after use.

Warning notice 2

Health Warning

This product contains micro-organisms that may be harmful to your health.
Avoid breathing dust or mists from this product.
Wear gloves and keep product moist when handling.
Wash hands immediately after use.

Statutory labelling of consumer products is a legal requirement placed on a range of manufacturers (for example tobacco, pharmaceuticals, food) to provide information on their product. If a business produces or supplies potentially dangerous goods, it is often required to provide appropriate safety information, for example instructions on safe handling. However, there is no conclusive evidence that labelling packaging with a safe handling warning will lead to reduction in the incidence of this disease.

Public health interventions rely upon effective communication and education which helps to lead to behaviour change. Industry plays a crucial role in helping to educate the public of risks associated with commercial potting mix and garden soils. With better information, individuals and communities can make better decisions about protecting their health.

The cost of providing warning labels on packaged items is minimal as the label design is incorporated into the overall design of the packaged item. The cost of providing a notice displayed where bulk unpackaged soils are sold is a one off cost of estimated at approximately \$50 to \$150 per sign.

Statutory labelling of consumer products is a legal requirement placed on a range of manufacturers to provide information on their product. If a business produces or supplies potentially dangerous goods, it is often required to provide appropriate safety information.

5.1.1.1 Role of the Department of Health

The Environmental Health Directorate of the DOH has provided support to local governments in the enforcement of the Garden Soils Regulations to industry groups since their inception. The main focus of the DOH has been educating the general public about the safe handling of garden soils by

providing educational resources and issuing regular media releases to warn the community of the risks.

Previously, the DOH investigated cases of *Legionella longbeachae* notified under the then *Health Act 1911*. However, in 2003 the decision was made to cease environmental investigations because *Legionella longbeachae* cases were single instances, unrelated to other cases, sporadic and not associated with any particular brand of potting mix or soil. Environmental health intervention options were limited in these scenarios, and the decision was made to discontinue such investigations and focus on education.

In 2006, the DOH coordinated an audit of the garden soil industry for compliance with the Garden Soils Regulations, in partnership with the following local governments (Appendix 1):

- City of Cockburn
- City of Gosnells
- City of Bunbury
- City of Stirling

A total of 25 bulk and bagged garden soil suppliers agreed to participate in the survey. Of the suppliers surveyed, 16 sold bulk soils (as well as packaged soils), 9 sold packaged soils only. It was found that:

- Of the 16 bulk soil suppliers, 13 complied with the requirement to display warning signs.
- **23 out of 25** suppliers were aware of the Garden Soil Regulations.
- **23 out of 25** suppliers were aware of the bacteria *Legionella longbeachae*
- **14 of the 16** bulk soil suppliers handed health advice to customers who purchased bulk garden soils.
- **21 out of 25** suppliers that sold packaged potting mix checked that appropriate health warning labels were provided on packaging sold to their customers [6]
- **23 out of 25** suppliers agreed to display copies of the DOH garden soils brochure.

Following this, the DOH wrote to all known garden soils suppliers (based on a yellow pages search) advising owners of their legal obligations under the Garden Soil Regulations and encouraging compliance. The Garden Soil Regulations do not provide any tiered enforcement options or allow for infringements to be issued for non-compliance.

5.1.1.2 Role of local government enforcement agencies

There are minimal requirements specified in the Garden Soil Regulations for local government administration and enforcement. No auditing or surveillance role is specified. Garden soil suppliers are not required to register or seek approval from local government.

In general, local government may only be involved in enforcing the Garden Soil Regulations if asked to assist with any disease notification investigations or to follow-up on a complaint of non-compliance with the Garden Soil Regulations if a complaint is made by industry or the public.

5.1.1.3 Number of garden soil suppliers in WA

It is unknown exactly how many garden soil suppliers are located throughout WA. Such industries are not required to register or seek public health approval to operate.

To estimate the number of bulk and packaged soil suppliers that may be located throughout WA, a Google search was undertaken using the key words "garden soils suppliers, hardware stores, garden centres". 233 suppliers have been estimated in WA, outlined in Table 4.

Table 4 Estimated number of premises that may supply garden soils

Premises type	Estimated number in WA	Notes
Garden centres. Landscaping and soil suppliers	53	Google search using key words 'garden soil suppliers'
Hardware stores	180	Google search using key words 'hardware stores'
TOTAL (estimate)	233	

It is not known how many individual brands and types of potting mix are available on the market place in WA. A review at a popular hardware store based in WA identifies approximately **9** common brands that have legal obligations to provide health warning labels on the bag.

5.1.1.4 Public health complaints and enquiries

The DOH does not routinely receive direct complaints from the public regarding commercial garden soil suppliers. The only concerns the DOH may receive are from members of the public who may have contracted the disease or from concerned relatives wanting to know more about the disease and the precautions to take.

5.1.1.5 Role of public / consumers

There is no role for the public under the Garden Soil Regulations. However, education of the public, particularly at risk persons is the most important and effective strategy to reduce the number of infections in the community. Previous deaths from Legionnaires Disease have raised concerns for improved and updated labelling requirements in line with the current Australian Standards.

5.1.1.6 Limitations of the Garden Soils Regulations

The Garden Soil Regulations have not been reviewed since their inception in 1998. Updates are required to the wording of warning labels specified in schedule 1 to align with the Australian Standards 4419:2003, which provides additional information about:

- the risk of inhalation
- links to Legionnaires' Disease, as well as
- font and size of text.

Additional provisions may be required to allow an enforcement agency to issue infringements for non-compliance.

5.2 Australian Standards

Following the rise of *Legionella longbeache* cases in other Australian States and Territories, Standards Australia updated its health warning requirements for industry in its Australian Standards related to garden soil supplies. However, there is no statutory requirement in WA for industry to comply with the Australian Standards.

Accessing Australian Standards imposes costs onto industry, which is on average \$120 per document. A 2017 Parliamentary Inquiry stated that the Commonwealth Government should consider making all Australian Standards available online at no charge. It implied that the cost for industry to purchase Australian Standards represents a significant barrier to compliance [7].

Additionally the WA Parliament's Delegated Legislation Committee released a similar report in 2016 on the 'Access to Australian Standards adopted in delegated legislation [8].

The relevant Australian Standards include:

AS 4419 – 2003: Soils for landscaping and garden use sets out requirements for general purpose soils, top dressing, topsoil

Extracts from AS 44 19 – 2003:

and landscaping mixes, for domestic and commercial use, supplied in either bulk or bagged lots. Section 10 of this standard provides information about health warning and hazardous label information to be provided on packaged / bagged soils as well as information sheets for bulk soils.

AS 4454-2012 Composts, soil conditioners and mulches is intended to be used by all levels of government, those who manufacture or supply compost, mulchers and soils conditioners, and those involved in providing compostable organic materials as feedstock to manufacturers. This standard outlines labelling and environmental health advice requirements. Section 5 of this standard outlines the packaging, marking and documenting of packaged and bulk materials and health warning information.

These standards provided suggested wording for:

- health warning labels
- hazard information labels

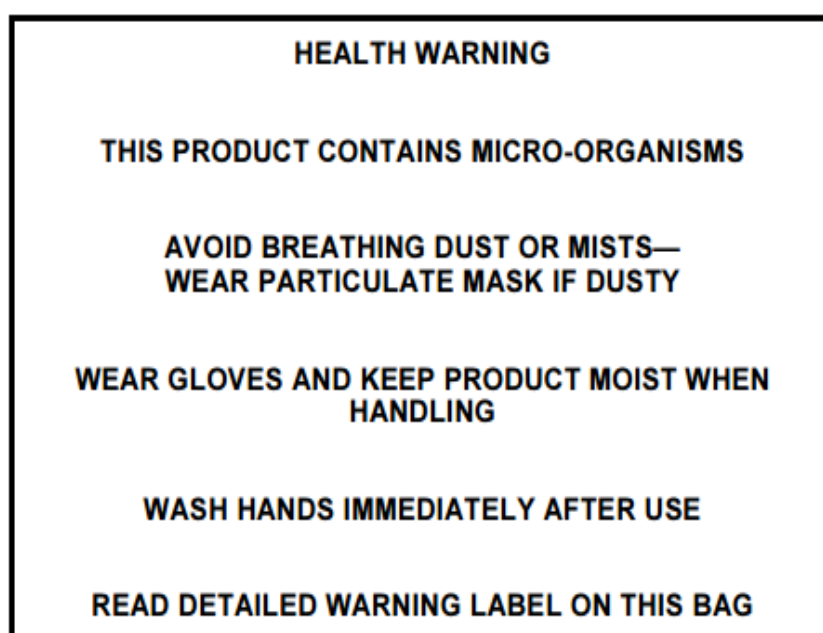


Figure 3 Health warning label specified in the Australian Standard 4419 - 2003

HAZARDOUS	
COMPOSTS, POTTING MIXES, AND OTHER ORGANIC GARDENING MATERIALS	
This product is made from organic materials, including composted pinebark, and contains living micro-organisms, including bacteria, fungi and protozoa. May also contain mineral and fertiliser additives.	
RISK	Inhalation of dust and/or liquid mists may irritate, inflame or sensitize the nose, throat and lungs resulting in illnesses ranging from hayfever or asthma, to pneumonia (e.g. Legionnaire's disease) or pneumonia-like illnesses. Direct contact with this material or its dust and/or liquid mists (bioaerosols) may cause skin irritation (dermatitis), and skin or eye infection or irritation. People particularly at risk are those suffering from asthma or allergies, and those whose immune defence systems are compromised.
SAFETY	<p>Avoid contact with eyes and skin.</p> <p>Avoid breathing dust and/or liquid mists (bioaerosols).</p> <p>Wear suitable protective clothing and standard duty gloves (AS/NZS 2161.2).</p> <p>If exposed to dust and/or liquid mists, also wear dust resistant eye protection (AS/NZS 1336) and particulate respirator (AS/NZS 1715 and AS/NZS 1716).</p> <p>Wash thoroughly immediately after handling.</p> <p>Wash work clothes regularly.</p> <p>Clean up by wet sweeping or vacuuming.</p> <p>Store this product in a cool location.</p>
FIRST AID	<p>Irrigate eyes with plenty of water for 10 minutes.</p> <p>Wash skin with soap and water.</p> <p>Seek medical attention for any persistent skin, eye or respiratory symptoms.</p>
DISPOSAL	Follow above safety precautions and collect in containers for disposal as trade waste in accordance with local authority guidelines.
MANUFACTURER	xxxx
For further information, refer to the Material Safety Data Sheet for this product which is available from xxxx.	

Figure 4 Hazardous information label specified in the Australian Standards 4419

5.3 Worksafe

Worksafe WA has issued the Code of Practice: Preventing Legionnaires' Disease which provides a section on the safe handling of garden soils to reduce exposure to workers [9]. This code also references the Garden Soils regulations labelling requirements. However, the focus of this code is to protect the health of the workforce, not the general public.

5.4 National legislation

The following table (Table 5) summarises the current management of garden soils in key Australian jurisdictions. This is limited to industry self-regulation and compliance with the relevant Australian Standards. Most Australian States or Territories have developed guidelines or Codes of Practice detailing risk management practices.

Table 5 Risk management controls in Australia for garden soils

Risk management controls summary
<p>Victoria</p> <p>No regulations. Victoria Health's website has information regarding Legionnaires Disease which includes recommended control measures in respect of handling garden soils. Voluntary industry self-regulation by complying with the Australian Standards.</p>
<p>New South Wales</p> <p>No regulations, but NSW Health has prepared factsheets on their website. The NSW Code of Practice for the Control of Legionnaires Disease includes a section on compost and potting mix and provides an example of a warning label that has been agreed to be used by most of the industry. This is an advisory code and is not adopted under legislation. The warning label differs from the Australian Standard.</p>
<p>South Australia</p> <p>No regulations. Information available on the SA Health website on how to reduce exposure to <i>L. longbeachae</i>. Industry self-regulation by complying with the Australian Standards. There are general duty powers under the SA <i>Public Health Act 2011</i> for the issuing of infringement notices for non-compliance with the general duty.</p>

<p>Queensland</p> <p>No regulations. Information available on the Queensland Government website on how to reduce exposure to <i>L. longbeachae</i>. Industry self-regulation by complying with the Australian Standards.</p>
<p>ACT</p> <p>No regulations. Industry self-regulation by complying with the Australian Standards.</p>

5.5 International legislation

A review was undertaken on the international management of garden soil risks. There is limited evidence that this risk is regulated by statutory regulations in the UK, New Zealand, United States or Canada. This risk seems to be more problematic in Australia, than internationally. A report produced by Health Protection Scotland in 2013 did note an increase in the number of *Legionella longbeache* cases in Scotland, and was looking to Australia as the benchmark for risk management strategies [10].

6 Risk management options

The Better Regulation Unit (BRU) of the Department of Treasury administers the Regulatory Impact Assessment (RIA) process in WA. The BRU assists State Government agencies in achieving best practice in accordance with RIA requirements. The RIA process is designed to improve the quality of regulation by ensuring that the decision maker is fully informed when approving new and amending regulatory instruments.

As part of the RIA process, the DOH has identified two options for WA to manage the public health risks of Legionnaires' Disease associated with handling garden soils. This will support decision makers to consider the most effective option for WA.

It is important to note that once fully implemented, the *Public Health Act 2016* has a number of mechanisms to deal with public health risk management and offences. These mechanisms will apply to all options considered, and include:

- Application of the general public health duty
- Improvement notices and enforcement orders
- Prosecution

Most notably, is that all persons are required to comply with the general public health duty under Part 3 of the Public Health Act, which provides assurance that a person must take reasonable and practicable steps to prevent or minimise any harm to public health that might foreseeably result from anything done or omitted to be done by the person.

Options considered as part of this review include:

Option A: Enable the industry to self-regulate by providing an industry guideline.

Option B: Develop new regulations to manage public health risks, which include updated information from the Australian Standards.

These options are discussed in detail below with consideration given to the advantages and disadvantages of each.

6.1 Option A: Enable industry to self-regulate by providing an industry guideline.

Repeal the existing regulations and enable the industry to self-regulate by providing an industry guideline outlining acceptable practices based on relevant Australian Standards.

Industry self-regulation is the controlling of a process or activity by the people or organisations that are involved in it rather than by an outside organisation such as government.

Existing research into ‘pure’ industry self-regulation, which does not include any direct involvement of government, suggests a number of lessons with regard to the limitations of this approach. In practice, pure

self-regulation often fails to fulfil its theoretical promise and commonly serves the industry rather than the public interest [11].

Evidence shows that self-regulation fails to deliver benefits for public health. Key findings from academic evaluations include:

1. Voluntary commitments are generally not designed based on the best evidence of what is needed to promote health.
2. The lack of enforcement mechanisms and sanctions means that participants can break their commitments without consequence.
3. Due to their voluntary nature, not all relevant persons will participate, weakening the potential impact of self-regulation.
4. Voluntary commitments usually involve activities that would have taken place anyway, providing limited, if any, added value.
5. Voluntary commitments are usually vague and permissive and their implementation is difficult to monitor and compare[11].

The DOH considers self-regulation to be an appropriate measure in certain circumstances, particularly for public health risk considered being a moderate, low or very low risk.

Australian Standards might be a useful reference point for businesses but they are not legally binding. Australian Standards also impose costs onto industry, which are charged a fee of approximately \$120 per standard. However, key requirements of an Australian Standard can be created into a non-binding guideline made available free of charge.

A DOH Guideline related to the safe use of garden soils would assist enforcement agencies in the application of the general public health duty. A person will not be taken to have breached the general public health duty if they have acted in a manner that is consistent with a guideline or other accepted practices. Where a person

breaches the general public health duty further action may be taken under the Public Health Act, such as the issuing of an improvement notice or enforcement order.

Alternatively, the DOH could partner with the Department of Mines, Industry Regulation and Safety, and amend the Code of Practice Preventing Legionnaires' Disease to incorporate up to date advice for the garden soil industry[9].

6.1.1 Impact analysis of Option A

A review was undertaken to determine the advantages and disadvantages of option A. These are specified below.

What are the ADVANTAGES of choosing this option?

- The guideline would provide direction to both industry and enforcement agencies on acceptable practices for managing this risk.
- There may be less regulatory burden on industry and government.
- This approach may be consistent with the frequency of risk, as cases are single, sporadic in nature, not transmissible and only present a risk to a minority of the population.
- The guideline would support the application of the general public health duty.
- Industry have the discretion to determine what measures they deem appropriate to manage the public health risks involved with the supply of garden soils to ensure they are not breaching the general public health duty.
- This option is consistent with the approach taken by other Australian and international governments.

What are the DISADVANTAGES of choosing this option?

- This could present a missed cost effective opportunity for continuing the mandatory labelling and signage requirements.
- This approach may make WA susceptible to increased cases and associated medical costs if there is an

increase in non-compliance with acceptable practices.

- There are no specific regulation offences which mean there would be no ability to issue infringement notices as a deterrent.
- This could result in inconsistent variations in the level of compliance by industry.

6.2 Option B: Develop new regulations to manage risks with garden soils

The new regulations would adopt the most up to date warning label requirements outlined in the applicable Australian Standards.

There may be a case for setting minimum acceptable standards by means of legislation to address the low proportion of *Legionella longbeachae* cases reported each year in WA.

Although the Australian Standards provide guidance to industry on warning label requirements and signage at bulk supplier centres, these standards are not a mandatory requirement. Non-compliance with the Australian Standards may not necessarily be the grounds for further action under the *Public Health Act 2016*.

Regulations would adopt similar requirements to the Australian Standards, continuing mandatory labelling requirements in WA.

Statutory labelling of consumer products is a legal requirement placed on a range of manufacturers (for example tobacco, pharmaceuticals, food) to provide information on their product. If a business, such as a garden soil supplier, produces or supplies potentially dangerous goods, it is often required to provide appropriate safety information, for example instructions on safe handling.

Because there are limited strategies to eliminate the risk of *Legionella longbeachae* in garden soils, the most effective public health intervention today relies upon communicating and educating the public on the correct handling of garden soils. Industry

plays a crucial role in helping to educate the WA public. With better information, individuals and communities can make better decisions about protecting their health.

New regulations could also provide for infringement notices to be issued to soil suppliers and manufacturers who fail to comply with the requirements contained therein. Infringement notices provide a timely, cost-efficient enforcement outcome in relation to relatively minor contraventions. This would also save considerable expense in enforcement and reduce the financial burden on business in attending and answering cases in court.

However, there is a strong push to eliminate unnecessary government regulatory burden. The true question lies, is regulation necessary to manage this risk when there are no control strategies to eliminate this risk in commercial potting mixes and garden soils. Furthermore, there is no conclusive evidence that labelling packaging with a safe handling warning will lead to reduction in the incidence of this disease. Risk management relies solely on individual users reading and applying health warning label requirements.

It is proposed that any new regulations would:

- Provide updated warning labels in line with the Australian Standards
- Enable a transition period (of at least 6 months) for industry to adhere to any new updated labelling and signage requirements
- Enable local government powers to issue infringements for non-compliance following the transition period

It is proposed that that any new regulations would not require:

- Registration of the business operating
- Specified surveillance by local government enforcement agencies

Registration and surveillance would create unnecessary administrative burdens for industry and enforcement agencies. It is proposed that ad-hoc surveillance could be considered by local government as desired.

6.2.1 Impact analysis

A review was undertaken to determine the advantages and disadvantages of Option B. These are specified below.

What are the ADVANTAGES of choosing this option

- May better inform the public about the risks of Legionnaires' Disease.
- There would be an ability to issue infringement notices as a deterrent for non-compliance.
- No additional costs for industry or government proposed, except those related to updating signage and packaging in line with the current Australian Standards.
- There would be no requirement for industry to pay to purchase the Australian Standard.

What are the DISADVANTAGES of choosing this option?

- Regulation will not prevent or eliminate this public health risk because the risk of *Legionella longbeachae* is naturally occurring in the environment.
- The Regulations are founded on the provision of warning labels, however, it is still left to the purchaser's discretion whether they follow the recommended instructions for use.
- May impose minimal administrative and enforcement responsibilities onto local government.

6.3 Questions: Preferred option for WA

Based on the advantages and disadvantages that have been discussed in the options, the DOH is seeking input from:

- local government representatives
- industry
- association groups
- government sector
- members of the public [12]

on the options considered to be the most feasible, practical and effective for achieving the desired public health objectives. A number of questions are outlined below and answers can be submitted on the WA Health online consultation hub at:

<https://consultation.health.wa.gov.au>

7 Online consultation

The online consultation outlines a number of questions to provide you with the opportunity to have your say about this review. These questions are outlined below.

Preferred option
Please indicate your preferred option for managing risks associated with packaged and bulk garden soils and potting mixes.
<ol style="list-style-type: none"> Option A: Enable the industry to self-regulate. Provide an industry guideline. Option B: Develop new regulations to manage public health risks, which include updated information from the Australian Standards and provisions related to infringement notices. None of these options
Based on your answer to the previous question, please explain why this is your preferred option.
Option 1 - Guideline
If option 1 is your preferred option, do you have any suggestions on the information that should be included in an industry guideline? Including links to useful resources to consider?
Option 2 – New regulation
If option 2 is your preferred option, do you have any suggestions on what should or should not be included in regulation? Please share links or other useful resources that should be considered.
Alternative options
Please provide details of any alternative options below. Please explain your ideas by providing examples of complaints, case studies, data or other useful evidence.
Additional comments

Do you have any other comments about minimising the public health risk related to bulked and packaged garden soils and potting mixes in WA? How will this impact you as a stakeholder?

For example, do you have any examples of complaints, health issues or other possible concerns that may need to be addressed into the future that may assist with this review?

Access the online consultation at:

<https://consultation.health.wa.gov.au/environmental-health-directorate/garden-soil-regulation-review/>

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9 Appendices

9.1 Appendix 1 - Regulatory tools under the *Public Health Act 2016*

Once fully implemented, the *Public Health Act 2016* has a number of mechanisms to deal with public health risk management and offences under the Act.

These include:

- General public health duty
- Infringement notices
- Improvement notices and enforcement orders
- Prosecution and
- Registration and licensing.

General public health duty

The general public health duty requires that a person must take all reasonable and practicable steps to prevent or minimise any harm to public health that might foreseeably result from anything done or omitted to be done by the person.

Where the general duty is to be applied, there must be some clear *harm* (or foreseeable harm) to public health. In cases where matters are a nuisance or amenity problem but no health effect can be proven, such as unsightly yards, neighbourhood disputes and inconveniences, the general duty will not apply.

Non-compliance with the general duty is not an offence in itself but may lead to action such as the issuing of improvement notices and enforcement orders under Part 14 of the Public Health Act by an authorised officer. Guidelines and regulations may be used to clarify the application of the general public health duty and provide information about the measures that may constitute compliance or non-compliance.

A person will not be taken to be in breach of the general duty if acting in a manner that accords with generally acceptable practices or in circumstances prescribed by regulations.

Infringement notices

The Act allows for the making of regulations that prescribe offences for which an infringement notice may be issued. An infringement notice is a written notice that a person has allegedly committed a specific offence which requires the payment of a fine or the election to have the matter heard in court. Payment of the fine does not lead to the recording of a conviction.

In the development of the new regulations, the DOH must give consideration to the use of infringement notices and which offences will be prescribed as those for which an infringement notice can be issued.

An infringement notice may generally be used when:

- there is prima facie evidence of a legislative breach;
- a legislative breach has occurred which is of minor impact and which can be remedied easily;
- a breach is the result of failure to comply with normal operating

procedures or requirements which are ordinarily in place and if used would have prevented that breach;

- no further prosecution of that matter is necessary; and
- it is likely to be an adequate deterrent.

It would be inappropriate to use an infringement notice when:

- large-scale harm to public health has occurred;
- the breach has had a significant impact upon other persons or property;
- the breach is continuing, and it is not within the alleged offender's ability to remedy quickly.

Infringement notices can only be issued where prescribed by a regulation or local law.

Improvement notices and enforcement orders

An improvement notice is an order that either requires or prohibits a person from taking specified action. There is often a timeframe in which the offender has to comply with the improvement notice. Once the timeframe has elapsed, the authorised officer can:

- Extend the time in which the offender has to comply.
- Issue a notice of compliance if the officer is satisfied, after carrying out an appropriate assessment, that the improvement notice has been complied with.
- Issue a notice that sets out the reasons why the officer is not satisfied that the improvement notice has been complied with.

An enforcement order is an order that either requires or prohibits a person from taking specified action. A prohibition with respect to specified action may be limited, absolute or conditional.

An enforcement order can be issued by an enforcement agency if it reasonably believes that an improvement notice has not been complied with, or if the issue of the order is necessary to prevent or mitigate a serious public health risk. An enforcement agency may issue an enforcement order in respect of non-compliance with an improvement notice irrespective of whether the improvement notice was issued by a person who was an officer of that or another agency.

Enforcement agencies can use improvement notices or enforcement orders under the Public Health Act in relation to aspects of regulations should they choose to do so.

Prosecution

Prosecution plays an important role in deterring non-compliance with legislation. In accordance with Part 18, section 280 of the Public Health Act, an enforcement agency may commence proceedings for an offence under the Act or its regulations. As prosecution is separate from action under Part 14, it can be commenced irrespective of whether an improvement notice or enforcement order has been issued. The relevant circumstances may include, for example, where the breach relates to a serious compromise of health standards and is of such a nature as to amount to a serious threat to public health and safety.

Registration and licensing

Under the Public Health Act, regulations can declare what is a public health risk activity and if it is required to be registered, licensed or both. The regulations will prescribe who the appropriate enforcement agency is for each registrable and/or licensable activity. This may be the local government, the Chief Health Officer or both. The regulations may also prescribe an annual or other fee in relation to the registration or licensing of a registrable or licensable activity. Regulations may prescribe offences in relation to an activity and provide modified penalties for which an infringement notice may be issued.

9.2 Appendix 2 - Public health risk assessment matrix

A number of risk assessment tools need to be used to determine the risk level for each identified public health risk. These tools include a health consequences table (Table 4), risk likelihood table (Table 5) and risk qualitative matrix (Table 6).

These risk assessment tools are from AS/NZS ISO 31000:2009 Risk Management – Principles and guidelines [13] and the Health Risk Assessment (Scoping) Guidelines [14].

The DOH has five Public Health Risk levels (shown Table 3), each requiring a varying degree of DOH involvement in their management.

Table 1 Definition of risk levels

Risk Level	DOH management requirements
Very Low Public Health Risk	No further assessment required
Low Public Health Risk	Some mitigation/management may be required – no detailed assessment of health hazards required but addressed with routine controls
Moderate/Medium Public Health Risk	Substantial mitigation/management required – assessment required of health hazards
High Public Health Risk	Not an acceptable risk. The DOH needs to be involved in the management of high public health risks. Major mitigation/management (including offsets) may be required – assessment required of health hazards
Extreme Public Health Risk	Potentially unacceptable: modification of proposal required

[5]

Table 2 Health consequences table adapted from the 2011 Health Risk Assessment (Scoping) Guidelines, DOH WA

Category	Acute Health Consequences (per hazard or outbreak)	Chronic Health Consequences (per project lifecycle)
1 Catastrophic	<ul style="list-style-type: none"> >1 fatality OR >5 permanent disabilities OR Non-permanent injuries requiring hospitalisation for 5 – 10 % of populations at risk OR Acute health effect requiring hospitalisation for 5 – 10 % of populations at risk 	Chronic health effect requiring medical treatment for 10 – 15 % of population at risk
2 Massive	<ul style="list-style-type: none"> 1 fatality OR 2 – 5 permanent disabilities OR Non-permanent injuries requiring hospitalisation for 2 - 5 % of populations at risk OR Acute health effect requiring hospitalisation for 2 – 5 % of populations at risk 	Chronic health effect requiring medical treatment for 5 - 10 % of population at risk
3 Major	<ul style="list-style-type: none"> No fatality AND 1 permanent disability OR Non-permanent injuries requiring hospitalisation for 1 – 2 % of populations at risk OR Acute health effect requiring hospitalisation for 1 - 2 % of populations at risk OR Evacuation is necessary 	Chronic health effect requiring medical treatment for 2 - 5 % of population at risk
4 Moderate/ Significant	<ul style="list-style-type: none"> No fatality AND No permanent disability AND Non-permanent injuries requiring hospitalisation for 1 – 2 % of populations at risk OR Acute health effect requiring hospitalisation for 1 – 2 % of populations at risk AND No evacuation 	Chronic health effect requiring medical treatment for 1 - 2 % of population at risk
5 Minor	<ul style="list-style-type: none"> No fatality AND No permanent disability AND Non-permanent injuries requiring hospitalisation for 1 – 5 persons OR No Acute health effect requiring hospitalisation AND No evacuation 	Chronic health effect requiring medical treatment for 0 - 1 % of population at risk

Category	Acute Health Consequences (per hazard or outbreak)	Chronic Health Consequences (per project lifecycle)
6 Negligible/ Slight	<ul style="list-style-type: none"> No fatality AND No permanent disability AND No Non-permanent injuries requiring hospitalisation AND No Acute health effect requiring hospitalisation AND No evacuation 	No chronic health effect requiring medical treatment

[5]

Table 3 Risk likelihood table adopted from the 2011 Health Risk Assessment (Scoping) Guidelines, DOH WA

Likelihood	Expected or Actual Frequency	% Chance of chronic health effect during life of project
Almost Certain	More than once a year	Over 90%
Likely	Once in 1 to 3 years	61 – 90%
Possible/ Occasionally	Once in 3 – 5 years	31 – 60%
Unlikely	Once in 5 – 10 years	6 – 30%
Rare/Remote	Once in more than 10 years	Up to 5%

[5]

Table 4 Risk matrix (qualitative)

Likelihood	Consequences					
	Slight/ Negligible	Minor	Moderate	Major	Massive	Catastrophic
Almost certain	Low	Medium	High	Extreme	Extreme	Extreme
Likely	Low	Low	Medium	High	Extreme	Extreme
Possible	Very Low	Low	Low	Medium	High	Extreme
Unlikely	Very Low	Very Low	Low	Low	Medium	High
Rare/ Remote	Very Low	Very Low	Very Low	Low	Low	Medium

[5]

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