Compost in landscaping and commercial gardening

Gippsland Regional Organics

Why use compost in landscaping and commercial gardening?

Soils in urban and managed landscapes are often disturbed, compacted and low in organic matter due to ongoing maintenance and construction. These conditions can limit plant establishment, reduce water infiltration and increase reliance on irrigation and fertilisers.

The application of compost addresses these constraints by increasing organic matter and rebuilding soil structure. This supports healthier soils that are better able to retain water, cycle nutrients and sustain plant growth over time. This translates to more resilient landscapes with lower ongoing maintenance requirements.

Benefits of compost in landscaping and commercial gardening

Improved soil structure and workability
Compost promotes the formation of soil aggregates, improving porosity and reducing compaction. This allows plant roots to penetrate more easily and improves soil aeration, which is critical for healthy plant growth. In high traffic areas such as parks and sports fields, improved structure can reduce surface hardness and improve usability.

Water retention and irrigation efficiency
The organic matter in compost acts like a sponge, increasing the soil's ability to retain water. This reduces the frequency and volume of irrigation required and supports plant survival during dry periods.

Improved soil biology and disease suppression
Compost introduces beneficial microorganisms that compete with plant pathogens and support nutrient cycling. This can improve plant health and reduce the need for chemical treatments in some applications.

Improved plant establishment and growth
Compost provides a balanced source of organic matter and nutrients, supporting early plant establishment and ongoing growth. It also improves root development, leading to stronger and more resilient plants in both landscaped and garden environments. It also contributes to weed control to reduce competition for establishing plants.

Reduced erosion and runoff
By stabilising soil and improving structure, compost reduces the risk of erosion caused by wind and water. This is particularly important on exposed sites, slopes and newly established landscapes where topsoil loss can be significant.

Reduced reliance on synthetic inputs
Over time, compost can reduce the need for synthetic fertilisers, herbicides and frequent watering. This supports more sustainable landscape management and can reduce maintenance costs.

Applying compost across landscaping and commercial gardening

Landscaping and civil works

Used to improve soil condition in new developments, including garden beds, streetscapes and urban infrastructure projects. Compost is often blended with soils to create engineered growing media suitable for plant establishment.

Parks and public spaces

Applied in garden beds, around trees and across open spaces to improve soil health and plant performance and control weeds. Returning compost produced from food organics and garden organics (FOGO) back into communities also reinforces the value of correct organic waste separation, helping to build awareness and improve the quality of materials placed in organics bins.

Sporting fields and turf

Used during construction and maintenance to improve turf establishment, drainage and soil structure. Compost can be applied as a soil conditioner prior to turfing or as a fine topdressing to maintain turf quality and reduce compaction.

Commercial gardens

Suitable for improving soil in garden beds, lawns and vegetable patches. Compost can also be blended into potting mixes or used in planter boxes to improve moisture retention and nutrient availability for plants and suppress weeds.

Application guidance

For new commercial plantings, compost can be applied during soil preparation, or slightly incorporated into the topsoil for established plants and trees.

Compost is a soil amendment and not a substitute for soil. The recommended incorporation rate rate is 125 kg compost per cubic metre of soil. This equates to a 1-part compost to 3-part soil blend mix.

Garden beds and landscaping

- Apply a 25-50 mm layer and incorporate into soil.
- Poor or degraded soils may benefit from up to 100 mm application.
- For new beds, compost can be incorporated to depths of 150-300 mm depending on site conditions.

Turf and sporting fields

- Apply 3-6 mm prior to turf establishment to improve soil profile.
- Use finely screened compost (<10 mm) for topdressing.
- Can be applied in conjunction with aeration to improve incorporation and soil performance.

Containers, planter boxes and rooftop gardens

- Blend 20-30% compost into potting mixes.
- For rooftop gardens, blend 10-20% of compost with sand and expanded minerals.

Erosion control and slopes

- Apply 25-75 mm mix of compost as a compost blanket on disturbed soils.
- Can be combined with seeding to support vegetation establishment.

Source: EPA NSW Cool Compost – Compost specifications for horticulture and grazing pastures technical fact sheets, AORA compost fact sheets, The Composting Handbook: A how-to and why manual for farm, municipal, institutional and commercial composters (2022)

Why choose GRO compost?

Gippsland Regional Organics (GRO) produces high quality compost from a range of organic waste streams, including food organics and garden organics (FOGO), green waste, biosolids and agricultural residues.

Owned by Gippsland Water, GRO is one of Victoria's largest composting and waste treatment facilities and is located at Dutson Downs, near Sale. The facility is EPA-licenced and processes organic waste materials under controlled conditions to produce a mature, stable and consistent compost suitable for a wide range of applications.

GRO plays a critical role in supporting the circular economy by receiving organic waste materials and transforming them into a valuable soil amendment to improve soil health and enhance plant growth.

Quality and safety assurance

Certified Product™
Australian Standard
AS 4454-2012
Lic. SMK41097

AS4454 certified: GRO compost is rigorously tested and certified to the Australian Standard AS4454 *Composts, soil conditioners and mulches*, providing assurance that it meets strict requirements for quality and safety. AS4454 defines minimum requirements for compost quality, maturity and safety and is referenced across Australian regulatory guidance.

Independent testing: Products are independently tested by the National Association of Testing Authorities (NATA) accredited laboratories.

Pasteurised product: High temperatures achieved during composting eliminate pathogens and plant seeds, supporting safe use in food production systems.

Low contamination: Physical contaminants are removed through screening and feedstocks are controlled and tested prior to processing.

GRO compost product specification

GRO compost and mature compost screened at 10 mm and 15 mm are available for sale in bulk quantities.

Typical agronomic parameters of GRO's compost products are provided below.

Parameter	Typical range
Moisture (%)	30 – 40
pH	6.4 – 8.5
Carbon to nitrogen (C:N) ratio	12:1
Organic carbon (g/kg)	> 200
Nitrogen (g/kg)	17 – 25
Soluble nitrogen (mg/kg)	270 – 360
Phosphorus (g/kg)	6.3 – 6.6
Soluble phosphorus (mg/kg)	40 – 75
Potassium (g/kg)	6.1 – 8.0
Sodium (g/kg)	2.2 – 3.0
Zinc (g/kg)	0.22 – 0.26
Copper (g/kg)	0.07 – 0.08
Bulk density (t/m^3)	0.7 – 0.9

Note:

- Range calculated using an average of three results.
- Monitor phosphorus levels in sensitive systems.
- Consider zinc and copper as these trace elements can accumulate under repeated applications.
- See GRO's product specification sheets for more information.

Meeting quality standards

Compliance with AS4454 ensures that GRO's compost products are suitable for use in landscaping and commercial gardening.

General specifications

Composts for landscaping and gardening applications rely on high quality materials (plants and media) to produce a long-lasting and attractive garden or park.

Acceptable contamination levels

Composts used in landscaping and gardening should be as free as possible from all types of biological contamination (plant propagules and microbial contaminants), physical contamination (materials such as glass, metal, plastic and stones or lumps of clay) and chemical contamination (heavy metals).

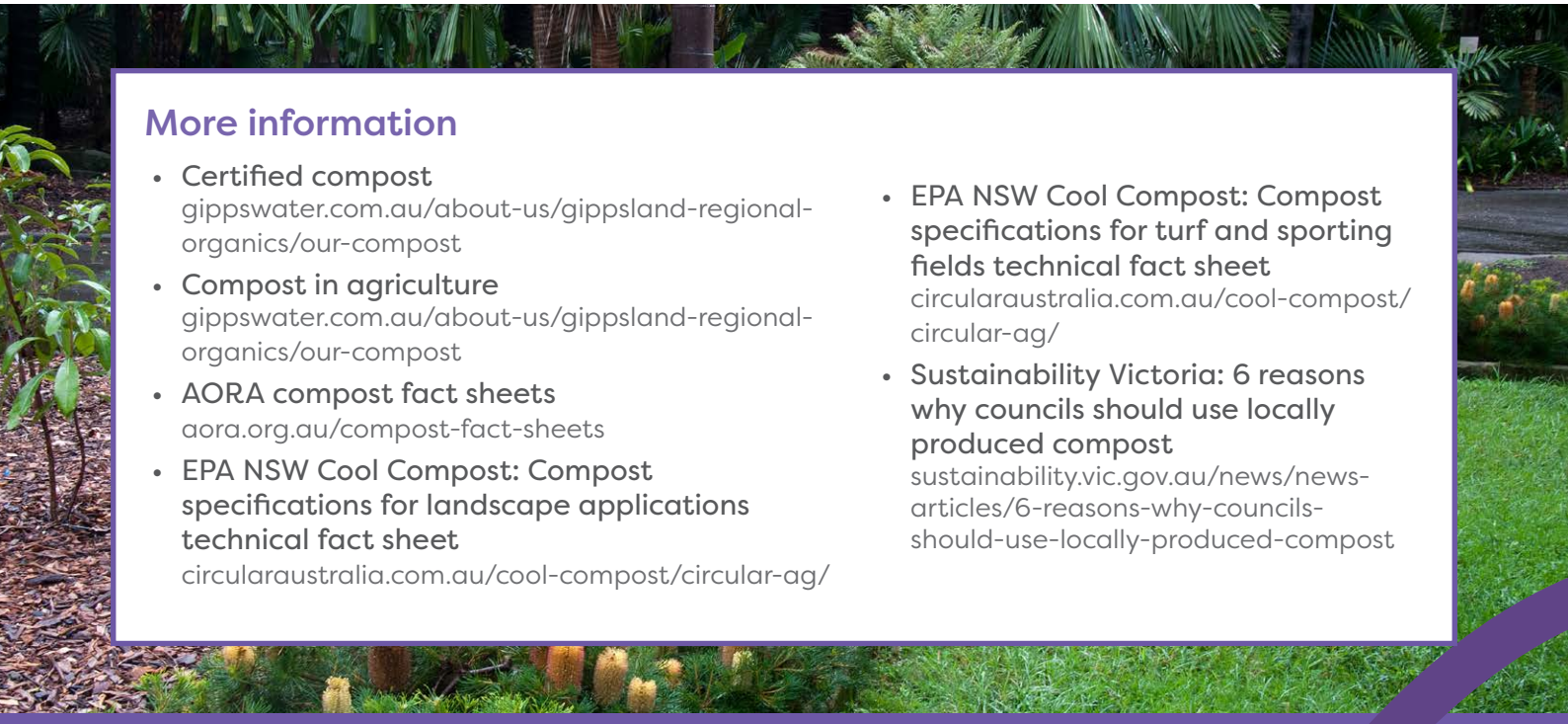
Performance characteristics

Beyond the quality characteristics specified in AS4454 there are several more characteristics that impact upon compost performance in the field. These performance characteristics differ slightly with each type of application due to production and crop requirements and can also be modified and amended after the composting process to create 'fit-for-purpose' composts suited to specific uses.

Compost maturity and stability

The maturity and stability of composted products impacts the performance of the product once it is placed on the soil surface or incorporated. Immature and unstable compost will deplete the soil of plant nutrients required for the crop. Mature compost has fully completed the composting process and is a beneficial soil amendment.

Source: EPA NSW Cool Compost – Compost specifications for landscape applications and turf and sporting fields technical fact sheets



More information

- **Certified compost**
  gippswater.com.au/about-us/gippsland-regional-organics/our-compost
- **Compost in agriculture**
  gippswater.com.au/about-us/gippsland-regional-organics/our-compost
- **AORA compost fact sheets**
  aora.org.au/compost-fact-sheets
- **EPA NSW Cool Compost: Compost specifications for landscape applications technical fact sheet**
  circularaustralia.com.au/cool-compost/circular-ag/
- **EPA NSW Cool Compost: Compost specifications for turf and sporting fields technical fact sheet**
  circularaustralia.com.au/cool-compost/circular-ag/
- **Sustainability Victoria: 6 reasons why councils should use locally produced compost**
  sustainability.vic.gov.au/news/news-articles/6-reasons-why-councils-should-use-locally-produced-compost

Gippsland Regional Organics

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We acknowledge the Traditional Owners of the Gippsland Water area, the Gunaikurnai people and the Bunurong people, and recognise their strong cultural connection to the land and waterways. We pay our respects to Elders, past and present.