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Definition

A relatively mature composted organic product that is suitable for placing on soil surfaces. Organic in this context excludes polymers (e.g. plastics, rubber and coatings), which do not degrade.

Composted products have been pasteurised and have undergone aerobic composting for a period of not less than 6 weeks (to achieve a specified level of maturity).

Composted fine mulch has not more than 20% by mass of its particles with a maximum size above 16 mm (Standards Australia AS 4454, 2002). See Information Sheet No. 3-8, *“Introduction to Australian Standard AS 4454-2002 for composts soil conditioners and mulches”* in the *“Producing Quality Compost”* package of Information Sheets for more details (Recycled Organics Unit, 2002a).

Uses

Composted fine mulches are usually applied to soil surfaces and are not incorporated or mixed into soil.

Composted fine mulches can be beneficially added to soils in a variety of applications, including: home gardens; community open space; urban landscaping; agriculture; forestry, and for soil and site rehabilitation.

Benefits

Composted fine mulches have a number of benefits when applied to soils. These include: reduced soil erosion, particularly in areas with exposed soils; a reduction in water loss through evaporation, thereby reducing the frequency of watering to maintain plant growth; inhibits the establishment of weeds and can suppress existing weeds, thereby reducing herbicide usage.

Some products may release nutrients for plant uptake, thereby reducing the requirement for chemical fertilisers.

Fine mulches have similar specifications as soil conditioners, except they are applied to the surface of soil. However, as the particle size is relatively small (for a mulch) some mixing with surface soil is likely.

Plate 1. Examples of mulch applications to municipal garden beds.



Composted fine mulches are considered a superior product to pasteurised fine mulches because they have been processed (composted) to a more mature state. Thus composted products are more stable and do not break down as rapidly on soil surfaces, giving longer lasting benefits. Some composted fine mulches also release nutrients for plant growth.

Risks

Minimal.

Effective *pasteurisation* via an aerobic and thermophilic (>55°C) composting or equivalent process, destroys weeds, seeds and plant/animal pathogens that may have been present in the original plant and other organic materials.

In most instances pasteurised products should be considered superior to shredded plant material products (e.g. leaf mulches), because non-pasteurised products increase the risk of spreading weeds, seeds or plant/animal pathogens.

Composted fine mulches are a more mature product, and are considered superior in quality to an equivalent product that has been pasteurised, but is immature.

Some composted fine mulch products may have an elevated electrical conductivity (EC) due to excessive

levels of soluble salts. EC levels may restrict the maximum application rates for some product, see details below.

Additives

Composted fine mulches are generally regarded as high-grade products, being both pasteurised and mature. However, additives are rarely used. In some cases, wetting agents are added to improve the ability of the product to absorb moisture following excessive drying.

Application rates

Composted fine mulch can be applied to soil up to a maximum depth of 100 mm or 100 L/m². At greater application rates, oxygen movement through mulch and into soil is reduced, and can impair plant growth. Plants absorb some oxygen via their root systems, and this is needed to maintain good root function.

For composted fine mulches that are high in soluble salts (measured as electrical conductivity, dS/m), application rates may be limited as soluble salts that leach out can cause water stress in plants. If the composted mulch has an electrical conductivity in excess of 1 dS/m, application rates need to be restricted, depending on the sensitivity of the plant(s) to salt. See Information Sheet 6-6, “*Use of*

Definitions*

Pasteurisation

The process whereby organic materials are treated to kill plant and animal pathogens and weed propagules.

* Recycled Organics Unit (2002b).

recycled organics products – Importance of electrical conductivity” from the “*Buyers Guide for Recycled Organics Products*” for more information.

Application methods

Application to garden soils and relatively small areas can be done with a wheel barrow, spade and rake.

For larger areas, such as in agricultural or forestry applications, composted fine mulches can be spread with a manure spreader.

A recent technology developed allows the delivery of mulch via a flexible hose with a blowing unit mounted on a truck containing the mulch. This system is useful for the efficient delivery of fine mulch, particularly in areas difficult to access, such as steep areas (e.g. roadsides for erosion control).

Important references

- Recycled Organics Unit (2002a). Producing Quality Compost: Operation and management guide to support the consistent production of quality compost and products containing recycled organics. Third Edition. Recycled Organics Unit, internet publication: <http://www.recycledorganics.com>
- Recycled Organics Unit (2002b). Recycled Organics Industry Dictionary & Thesaurus: standard terminology for the recycled organics industry. Recycled Organics Unit, internet publication: <http://www.rolibrary.com>
- Standards Australia (2002). AS 4454—Composts, soil conditioners and mulches. Standards Australia, Homebush, NSW.

Acknowledgements

The development of this information package has been funded by Resource NSW

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