Information Sheet No. 7-5-1

Shredded plant materials (non-pasteurised)

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Definitions

Non-pasteurised shredded plant materials (*raw products*) that are used for surface mulch applications. Products include raw mulch, *garden organics*, *wood and timber residuals* and forestry industry residuals.

Raw mulch is an organic material that may have undergone size reduction and is suitable for placing on soil surfaces as mulch, but may contain weeds, seeds and pathogenic microorganisms, as it has not been subject to pasteurisation or composting (Recycled Organics Unit, 2002a).

These products do not comply with the Australian Standard AS 4454 (2002) for composts, soil conditioners and mulches.

Uses

These products are usually applied to soil surfaces and are not incorporated or mixed into soil. They can be 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

These products are cheap because they have undergone minimal processing. These products 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.

Risks

Because these products are not pasteurised and do not comply with the relevant Australian Standard, they may contribute to a number of problems including: Phytotoxicity;

- Nitrogen drawdown;
- Chemical or physical contamination;
- Odours;
- Weed propagation, and
- Transference of pathogens to plants and animals.

See Information Sheet 6-4, *"Buyer beware: quality issues for recycled organics products"* in the "*Buyers Guide for Recycled Organics Products*" (Recycled Organics Unit

Plate 1. Production of wood chips (left) and raw wood chip mulch (right).

2002b) for details.

Additives

Because these are low quality, low cost products, additives are rarely added.

Application rates

Consumers should exercise considerable caution prior to using non-pasteurised shredded plant materials. These products do no comply with Australian Standards and as such may adversely affect soil, plant, animal and human health.

The rate of application of a mulch to soil depends upon the coarseness of the product, though most can be applied to a maximum depth of 100 mm or 100 L/m^2. At greater application rates, oxygen movement through the 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 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 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 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 agricultural or forestry applications, mulches can be spread with a manure spreader.

Definitions*

Raw products

Raw products are any compostable organic material that is distributed as a recycled organics product without having been subjected to an effective pasteurisation or composting process, and may therefore contain weed propagules and pathogenic microorganisms.

Garden organics

Garden organics include any garden derived organic (plant) materials generated by domestic, C&D and C&I sources. Garden organics are defined by their component materials including: putrescible garden organics (grass clippings); non-woody garden organics; woody garden organics; trees and limbs, and stumps and rootballs.

Wood and timber residuals

Wood and timber residuals are any untreated, uncontaminated wood waste material produced by domestic, C&D and C&I sources, including: off-cuts; crates; pallets and packaging; saw dust and timber shavings.

* Recycled Organics Unit (2002a).

Important references

- Recycled Organics Unit (2002a). Recycled Organics Industry Dictionary & Thesaurus: standard terminology for the recycled organics industry. Recycled Organics Unit, internet publication: http://www.rolibrary.com
- Recycled Organics Unit (2002b). Buyers Guide for Recycled Organics Products: Supporting consumers to differentiate between high and low quality recycled organics products and to identify the best product for their needs. Third Edition. Recycled Organics Unit, internet publication: http://www.recycledorganics.com
- Standards Australia (2002). AS 4454—Composts, soil conditioners and mulches. Standards Australia, Homebush, NSW.

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