

Issue 5  
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## Contents

1 Making informed decisions:  
[www.rolibrary.com](http://www.rolibrary.com)

2 Manufacturing quality recycled organics products: Industry guidance manuals

3 OH&S and commercial composting

Industry vocational education and training

Quick reference guides to AS 4454 and the NSW Biosolids Guidelines

4 Tools for buyers and users of recycled organics products

Official launch of Compost Australia website

5 Tools for pursuing high volume agriculture markets

6 Life cycle inventory and assessment for windrow composting

Australasian Journal of Recycled Organics

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## Making Informed Decisions: [www.rolibrary.com](http://www.rolibrary.com)

The Recycled Organics Unit (ROU) is proud to launch the Recycled Organics Library, a web-based information service by and for the Australian Recycled Organics sector. This service is now online at [www.rolibrary.com](http://www.rolibrary.com).

The [www.rolibrary.com](http://www.rolibrary.com) is a free searchable online catalogue of information resources on:

- the recovery and management of compostable organic materials, and
- the manufacture and use of recycled organics products.

The ROU approached over 200 agricultural, industry, university, government and independent agencies from across Australia with relevant expertise and/or were known to have conducted related work.

[www.rolibrary.com](http://www.rolibrary.com) compiles over 250 quality information resources (reports, guidelines, audits, "how to" information, processing and product performance trials) from the past decade into a single catalogue, making [www.rolibrary.com](http://www.rolibrary.com) a key information tool for organics resource management in Australia.

[www.rolibrary.com](http://www.rolibrary.com) is freely available 24 hours every day of the year to provide you with direct access to the most complete range of high quality and relevant information resources produced across Australia.

The catalogue provides a direct link to the actual information resource if it is available on the internet.

Where the information resource is not freely available, or not available on-line, the catalogue provides the direct contact details of the publisher and details of availability.

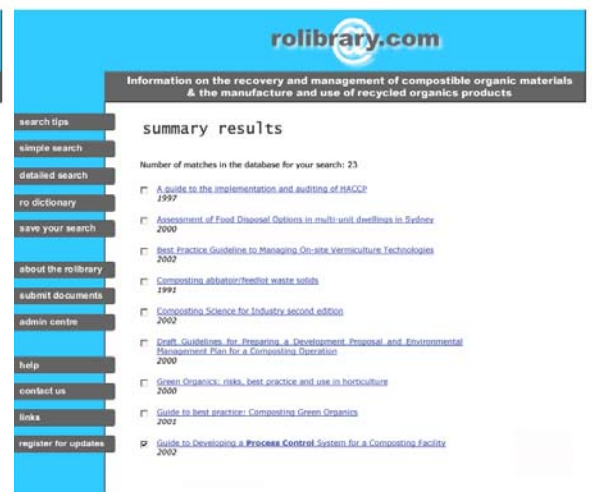
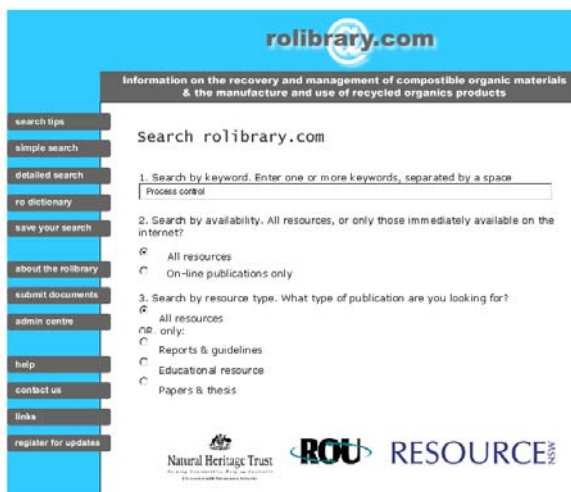
Access quality information as and when you need it directly via [www.rolibrary.com](http://www.rolibrary.com).

The [www.rolibrary.com](http://www.rolibrary.com) is endorsed by Compost Australia

as the key vehicle for dissemination of information resources to the industry.

For more details, download the brochure from the site, and visit [www.rolibrary.com](http://www.rolibrary.com) to access relevant and quality information resources via the [www.rolibrary.com](http://www.rolibrary.com) catalogue.

*"To provide you with direct access to the most complete range of high quality and relevant information resources produced across Australia"*



# Manufacturing quality recycled organics products: Industry guidance manuals

The ROU has developed a series of industry manuals to support the establishment and operation of organic processing enterprises, and the production of recycled organics products of consistent quality.

These popular industry best practice guidance manuals have been nationally peer reviewed by industry and technical experts, and a number have been nationally endorsed by the Waste Management Association of Australia (WMAA).

The packages consist of accessible and user-

friendly information sheets, with all information grounded in science and fully referenced, and a comprehensive glossary of technical terms is also included.

The industry manuals have recently been updated for consistency with the revised Australian Standards for *Composts, Soil Conditioners and Mulches* (AS 4454 – 2003), *Potting Mixes* (AS 3743 – 2003) and *Soils for Landscaping and Garden Use* (AS 4419 – 2003).

● *Establishing a Licensed Composting Facility*, Second Edition (2002) provides a guide to siting, designing, gaining planning and licensing consent to establish a commercial composting facility in New South Wales.

● *Guide to Developing a Process Control System for an Organics Processing Facility*, Second Edition (2003) provides a practical guide to developing a process control system for an organics processing and recycling operation.

● *Producing Quality Compost*, Second Edition (2003) identifies quality issues associated with composts and provides a practical guide to managing composting windrows to achieve the consistent production of quality compost.



● *Guide to Selecting, Developing and Marketing Value-Added Recycled Organics Products* (2002) aims to support government and industry to develop new products and new markets for recycled organics products.



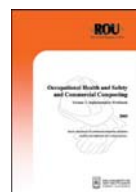
● *Composting Science for Industry*, Second Edition (2002) provides an overview of the scientific principles of the composting process including the importance of temperature, oxygen, water, structure, C:N and pH to the performance of a compost pile.



● *Buyers Guide for Recycled Organics Products*, Second Edition (2003) documents the benefits of appropriate use of recycled organics products, and informs the selection of the most appropriate product/s for a range of applications on the basis of quality and fit for purpose criteria.



● *How to Use Recycled Organics Products*, Second Edition (2003) comprises a series of information sheets each referring to a specific type of recycled organic product. Individual information sheets provide practical guidance for the proper use of the product, and are suitable for use by landscape and parks maintenance staff.



● *Occupational Health and Safety and Commercial Composting* (2003) is a practical guide to OH&S for a commercial composting facility and will assist the recycled organics industry to identify and systematically address safety issues (see the article on the following page).

All packages are freely available and can be downloaded from the ROU website at [www.recycledorganics.com](http://www.recycledorganics.com).



The Industry Guidance Manuals are user-friendly with easy to read information sheets that are fully referenced and contain a complete glossary of terms

## OH&S and commercial composting

The Recycled Organics Unit has produced a practical guide to occupational health and safety and commercial composting.

This package will assist the recycled organics industry to identify and systematically address safety issues.

The Occupational Health and Safety and Commercial Composting package comprises three complementary volumes:

- *Occupational Health and Safety and Commercial Composting Volume 1: Implementation Workbook* (Recycled Organics Unit, 2003).
- *Occupational Health and Safety and Commercial Composting Volume 2: A Review of Potential Risks of Infection* (Recycled Organics Unit, 2003).
- *Occupational Health and Safety and Commercial Composting Volume 3: Induction Manual for Compost Facility Staff* (Recycled Organics Unit, 2003).

This package has been developed via literature review and consultation with OH&S professionals, medical specialists and industry.

The Occupational Health and Safety package is available to download for free at the ROU website: [www.recycledorganics.com](http://www.recycledorganics.com).

## Quick reference guides to AS 4454 (2003) and the NSW Biosolids Guidelines

Standards Australia has released the 2003 revised edition of Australian Standard AS 4454 *Composts, Soil Conditioners and Mulches*, now available online at [www.standards.com.au](http://www.standards.com.au).

The ROU has updated our quick reference guide to AS 4454 (2003) containing a summary of the revisions to this edition. The key changes are summarised below:

- Changes to definitions
- Modification of the heavy metal contamination requirements, and methods for determining wettability and toxicity
- Addition of test for the presence of plant propagules

## Industry vocational education and training

The Recycled Organics Unit has partnered with Agriculture Victoria and the organics processing industry on a national basis to develop national competency standards for the industry.

These competency standards have been endorsed by industry. Official confirmation has now been received that the Rural Training Council Australia (RTCA) has received approval from the Australian National Training Authority (ANTA) to proceed with the formal endorsement of the Commercial Composting Training Package.

As a result, the organics processing industry is on the road to industry recognised training and qualifications, that will help to provide professional training to staff and improve operational capabilities of facilities.

A competency based training program for composting operations has been developed, covering several key competency standards units. Once piloted and evaluated by industry, this program will be made available interstate (late 2004) for delivery as a stand-alone training program, or via integration into various horticultural/agricultural training programs.



**Industry recognised training and qualifications will produce professional staff and increase operational capabilities.**

- Admission of vermicast to the standard subject to passing a sieve and incubation test
- Deletion of nitrogen drawdown index
- Modification of soluble nitrogen requirements
- Self-heating test now mandatory for soil conditioners, fine mulches and vermicast.

The ROU has also updated a quick reference guide to the NSW Biosolids Guideline in response to uncertainty expressed by newcomers to the industry regarding the content and scope of these documents.

The ROU quick reference guides are freely available from [www.recycledorganics.com/hot/index.htm](http://www.recycledorganics.com/hot/index.htm).

# Tools for buyers and users of quality recycled organics products

## Information packages and recycled organics product selector

The ROU has developed a range of tools to support the selection and application of quality recycled organics products in established urban (value) markets.

The tools provide small to large-scale buyers of recycled organics products with the information required to recognise and purchase fit-for-purpose products on the basis of quality.



These tools have recently been updated for consistency with the revised Australian Standards for *Composts, Soil Conditioners and Mulches* (AS 4454 – 2003), *Potting Mixes* (AS 3743 – 2003) and *Soils for Landscaping and Garden Use* (AS 4419 – 2003).

product/s for a range of applications on the basis of quality and fit for purpose criteria.

- *How to Use Recycled Organics Products*, Second Edition (2003) comprises a series of information sheets each referring to a specific type of recycled organic product. Individual information sheets provide practical guidance for the proper use of the product, and are suitable for use by landscape and parks maintenance staff. This package complements the buyers guide and aims to maximise the user benefit and to avoid risks associated with inappropriate product application.
- The *Recycled Organics Product Selector* is an interactive internet-based tool that allows users to specify the functional purpose for which the product is required, and returns a product recommendation based on the various Australian Standards for composts, soil conditioners, mulches, potting mixes, landscaping soils and loose fill playground surfacing materials. The product selector is located at [www.recycledorganics.com](http://www.recycledorganics.com).

The *How to Buy Quality Recycled Organics* Poster is a valuable source of information for buyers and users of recycled organics products.

- *Buyers Guide for Recycled Organics Products*, Second Edition (2003) documents the benefits of appropriate use of recycled organics products, and informs the selection of the most appropriate

## Compost Australia: a national voice for the recycled organics industry

Compost Australia is now established as the peak national association for the organics processing and recycling industry. With representation of organics

processing enterprises from all states on the committee, Compost Australia is a processor driven industry organisation.

The goal of Compost Australia is to support a professional and viable industry by:

1. Establishing a national industry organisation; and
2. Establishing and implementing an industry development plan.

With task 1 structurally complete, Compost Australia is planning a major program of workshops for nationwide roll out in urban and

regional centres to build a strong national membership base.

Funding is now confirmed for this industry Roadmap Program, which will finalise the establishment of the industry organisation, build membership, and produce an industry development plan.

The resulting industry development plan will target identified national priorities for the industry, and position the industry as a recognised and valued contributor to the resolution of pressing environmental issues, including agricultural water use efficiency and water resource management, sustainable agriculture, catchment management, and rural environment improvement.

Processors and other interested stakeholders are invited to join Compost Australia as either full or associate member (membership forms are available from the internet site).

For further information about Compost Australia, visit [www.compostaustralia.com](http://www.compostaustralia.com).



# Tools for pursuing high volume agriculture markets

## RO in intensive agriculture

Intensive agriculture has been identified as a key potential market for a viable organics processing industry. Ten years of applied field trials around Australia have sought to evaluate the performance benefits of recycled organics products to intensive agriculture. These trials have involved a wide variety of composts, soils, crops and climatic conditions.

The vast majority of this research is not readily accessible and has not been subject to peer review. This research requires evaluation and compilation in the context of crops, soils and grower objectives to clearly identify the value of the available research to the development of agricultural markets.

The Recycled Organics Unit has reviewed this research for viticulture applications and for fruit/orchard applications in relation to performance outcomes and methodology, thereby providing a sound basis for future recycled organics product development, performance validation and demand creation in priority agricultural markets. The review is documented in the following reports:

- *Recycled Organics in Intensive Agriculture Volume 2 – Viticulture: A review of recycled organics product application field trials in viticulture in Australia* (Recycled Organics Unit, 2003).
- *Recycled Organics in Intensive Agriculture Volume 3 – Fruit and Orchard: A review of recycled organics product application field trials in fruit and orchard production in Australia* (Recycled Organics Unit, 2003).

The development of performance-based recycled organics products to meet the expressed needs of intensive agriculture markets will maximise the cost-benefit advantages to users. The development of application specific performance based products, and associated market development strategies should be grounded in existing information and expertise.

These reports have developed standard performance categories and monitoring parameters for consideration in recycled organics application trials to inform cost benefit analysis and environmental impacts. Such a standard will support the commissioning of product application field trials that meet the strategic objectives of government and industry.

A fourth volume is in progress to similarly evaluate field trials relating to intensive vegetable production. Visit [www.recycledorganics.com](http://www.recycledorganics.com) to access these freely available field trial reviews.

## Soil testing guidelines

The Recycled Organics Unit has produced an agricultural package to support the expansion of agricultural markets for recycled organics products.

The application of suitable recycled organics products and integration into existing farm management practices should be informed by appropriate soil testing and subsequent nutrient budget calculations.

The package includes a soil-testing regime and nutrient budget calculator as aids for informing soil and crop specific recycled organics product applications.

This package guides processors and/or growers in the sampling and on-site field testing of their soil to inform the selection of suitable recycled organics products.

Appropriate testing allows the benefits from improved organic matter in the soil to be identified, and the tools also inform the complementary addition of organic and/or inorganic soil amendments such as lime and fertilisers over a three year compost application cycle.

These tools allow an equivalent service to be provided for growers for recycled organics product application as that provided by companies such as Incitec for determining inorganic fertiliser applications.

This package consists of three publications titled:

- *Soil Testing Guidelines for Intensive Agricultural Enterprises to Inform Recycled Organics Applications* (Recycled Organics Unit, 2003).
- *Composted Mulch Nutrient Contribution Calculator for Vineyards and Orchards* (Recycled Organics Unit, 2004).
- *Field Testing Kit Interpretation Guide to Inform Organic Mulch and Soil Conditioner Application* (Recycled Organics Unit, 2004).

The Soil Testing Guideline is available on the ROU website at [www.recycledorganics.com](http://www.recycledorganics.com).

The Compost Nutrient Calculator and the Field Testing Kit Interpretation Guide will be available later in the 2004 calendar year.



A resource package will soon be available to support the expansion of agriculture as a key market for recycled organics.

# Life cycle inventory and assessment for windrow composting

Agricultural markets for recycled organics products are essential for the viability of the organics processing industry, and for the recovery of compostable materials from the solid waste stream.



Lack of demonstrated value (affordability) is a major barrier to product use in agricultural and commercial horticultural applications. The direct and short-term cost-benefit equation for farmers however does not take into account environmental externalities that are born or realised by the wider community and by future generations.

Quantifying the environmental impacts, including benefits, of the agricultural application of recycled organics products can help to justify the implementation of potential financial incentives to assist in overcoming affordability barriers.

Post application impacts have previously been excluded from life cycle assessment studies. Comprehensive life cycle inventory data relating to post application impacts has been developed by the ROU, and is available for future life cycle studies. Life cycle assessment methodology can support resource recovery priorities based on science, rather than salesmanship.

Consequently, the ROU has completed:

- *Life Cycle Inventory and Life Cycle Assessment for Windrow Composting Systems* (Recycled Organics Unit, 2003).

LCA modelling identified that even when compost is transported 600 km with no backloading, composting represents a net greenhouse benefit.

This report has been reviewed by NSW Agriculture and CSIRO Land and Water and is available from [www.recycledorganics.com](http://www.recycledorganics.com).

# Australasian Journal of Recycled Organics

The Recycled Organics Unit is establishing a peer reviewed Australasian Journal of Recycled Organics.

This project has been funded by Environment Australia.

The Australasian Journal of Recycled Organics will publish applied research and development into all aspects of the recovery and management of compostable organics and the production and application of recycled organics products.

The focus of the journal is to publicise applied research, commonly referred to in agricultural context as “research into practice”.

The Journal will be published quarterly and will contain several peer-reviewed papers, numerous non-peer reviewed short communications (for example, case studies, demonstration trials, programs), listing of newly commissioned research and new publications, industry news, and an editorial column.

The Journal will provide a dedicated vehicle for communicating all relevant information relating to organics recovery to use, and is targeted to the needs of government, local government, research sector, organics processing industry, resource recovery industry, landscaping, horticulture and agriculture industries.

Compost Australia has endorsed the Journal as a key vehicle for communication for the sector.

The first edition of the Australasian Journal of Recycled Organics is planned for release in Summer 2004.

## How to Subscribe

If you would like to subscribe to the *ROU Review* email list, please send an email message to: [rou-request@freelists.org](mailto:rou-request@freelists.org) with ‘subscribe’ in the subject field.

## ROU Technical Services

The Recycled Organics Unit provides a number of expert technical services to support the development of the organics industry. Please email [a.campbell@unsw.edu.au](mailto:a.campbell@unsw.edu.au) to discuss how we can assist with your needs.

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