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| **Aerobic Composting** |
| Revision Summary |
| Version 1, April 2016 |



**CIWM/WAMITAB**

**Continuing Competence**

**Part of the CIWM/WAMITAB**

**Operator Competence Scheme**

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# Introduction

## About WAMITAB

WAMITAB is an awarding organisation and charity that develops qualifications for those working in cleaning; street cleansing; facilities management; resource management and recycling and parking from operative through to management level.

Since it was formed in 1989, WAMITAB has evolved in line with the convergence between the sectors with a clear focus on promoting and supporting environmental sustainability.  With over 120 qualification pathways and 70 quality assured centres, WAMITAB offers an unrivalled specialist network to support staff development.

## What is Continuing Competence?

The CIWM/WAMITAB continuing competence scheme is designed to ensure that the technically competent person (holds a certificate of technical competence, units or a qualification that is part of the CIWM/WAMITAB Operator Competence Scheme) on a waste site has knowledge and skills that keep pace with changes made across the waste management industry, such as the introduction of new legislation, technologies and techniques.

The CIWM/WAMITAB continuing competence scheme requires technically competent people in England and Wales to pass an assessment that demonstrates individuals have kept their competence up to date.

Keeping competence up to date is becoming increasingly important across the UK as society starts to recognise the crucial role waste and resource management industry professionals play in ensuring that the 434 million tonnes of waste generated every year can be treated, reused and recycled to produce a product that will contribute to further economic growth.

## About this Revision Summary

WAMITAB recognise the diverse needs of learners within the sectors we represent. To support those individuals undertaking their Continuing Competence test, we have developed this revision summary.

This revision summary is designed to support you preparation by linking the learning outcomes with the areas that may come up during the Continuing Competence test.

# 1. Waste Acceptance Procedures C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\FJ1S42NY\MC900432680[1].png

## Learning Outcomes

* 1. Know information, checks and records required prior to accepting waste

* 1. Know the acceptance procedures for waste that arrives at the aerobic composting facility
	2. Know the requirements for waste reception and storage at the aerobic composting facility
	3. Know the procedures for waste rejection at an aerobic composting facility

![C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\QBGJHOOM\MC900433793[1].png]()

## Where do I find this information?

* How to comply with your environmental permit: Additional technical guidance for: composting and aerobic treatment sector
* [SR2012No3 (v2) Composting in closed systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no3-composting-in-closed-systems)
* [SR2012No7 (v2) Composting in open systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no7-composting-in-open-systems)
* [SR2012No4 (v3) Composting in closed system (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-4-composting-in-closed-systems)
* [SR2012No8 (v3) Composting in open systems (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-8-composting-in-open-systems)

## Notes

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# 2. C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\FJ1S42NY\MC900432680[1].pngAccepting Feedstocks

## Learning Outcomes

* 1. Know the characteristics that should be tested as part of a detailed feedstock characterisation
	2. Know why non-source segregated feedstocks potentially pose a greater environmental risk when using the resulting compost-like output
	3. Know the consequences of using contaminated feedstocks for the aerobic composting process
	4. Know the consequences of using contaminated feedstocks for the Mechanical Biological Treatment process
	5. Know how the residual wastes from an aerobic composting facility should be controlled and managed

![C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\QBGJHOOM\MC900433793[1].png]()

## Where do I find this information?

* [Environment Agency – Sustainable management of biowastes: Compost-Like Output from Mechanical Biological Treatment of mixed source municipal wastes](http://www.environment-agency.gov.uk/static/documents/Research/080331_MBT_FINAL_VERSION_broken_links_removed.pdf)
* webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/static/documents/Research/080331\_MBT\_FINAL\_VERSION\_broken\_links\_removed.pdf
* [Organics Recycling Group – An industry guide for the prevention and control of odours at biowaste processing facilities](http://www.organics-recycling.org.uk/dmdocuments/Industry_guide_for_prevention_and_control_of_odours.pdf)

## Notes

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# 3. C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\FJ1S42NY\MC900432680[1].pngAccepting Animal By-Products

## Learning Outcomes

* 1. Know the types of aerobic composting facility that can handle catering waste according to Animal By-Product Regulations
	2. Know the requirements for record keeping regarding Animal By-Products or food waste delivered to the site
	3. Know what a Hazard Analysis Critical Control Point plan is in relation to gaining Animal By-Products Regulations approval and what steps are required

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## Where do I find this information?

* [The Animal By-Products (Enforcement) (England) Regulations 2013](http://www.legislation.gov.uk/uksi/2013/2952/pdfs/uksi_20132952_en.pdf)
* [GOV.UK: Animal by-products categories, site approval and hygiene](https://www.gov.uk/guidance/animal-by-product-categories-site-approval-hygiene-and-disposal)
* [GOV.UK: using animal by-products at compost and biogas sites](https://www.gov.uk/guidance/using-animal-by-products-at-compost-and-biogas-sites)

## Notes

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# 4. Odour Control

## Learning Outcomes

* 1. Know what circumstances odours may be produced during aerobic biological treatment processes
	2. Know the odour problems associated with aerobic biological treatment processes and how to control them
	3. Know the methods used to monitor odour on an aerobic composting facility
	4. Know the limitations of using Field Assessment for monitoring odours
	5. Know the information required for an odour management plan
	6. Know the optimal operating conditions for biofilters
	7. Know how to identify the correct biofilter size for aerobic biological treatment processes

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## Where do I find this information?

* [Organics Recycling Group – An industry guide for the prevention and control of odours at biowaste processing facilities](http://www.organics-recycling.org.uk/dmdocuments/Industry_guide_for_prevention_and_control_of_odours.pdf)
* [Environment Agency – How to comply with your Environmental Permit (V6, June 2013)](http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/LIT_7123_79744e.pdf)
* [Environment Agency – H4: Odour Management (March 2011)](http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/geho0411btqm-e-e.pdf)
* How to comply with your environmental permit: Additional technical guidance for: composting and aerobic treatment sector
* [SR2012No3 (v2) Composting in closed systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no3-composting-in-closed-systems)
* [SR2012No7 (v2) Composting in open systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no7-composting-in-open-systems)
* [SR2012No4 (v3) Composting in closed system (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-4-composting-in-closed-systems)
* [SR2012No8 (v3) Composting in open systems (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-8-composting-in-open-systems)

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# 5. C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\FJ1S42NY\MC900432680[1].pngBioaerosols Management

## Learning Outcomes

* 1. Know the monitoring requirements for bioaerosols
	2. Know the methods used to monitor bioaerosols
	3. Know the factors affecting a bioaerosol risk assessment for sensitive receptors
	4. Know the methods used for bioaerosol abatement (including reducing point source releases)

* 1. Know where a safe/no-effect zone can be established with regard to bioaerosol exposure
	2. Know the consequences of exposure to bioaerosols to staff and visitors
	3. Know how to manage the risk of exposure to bioaerosols

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## Where do I find this information?

* [Environment Agency – Composting and potential health effects from bioaerosols: our interim guidance for permit applicants](http://www.environment-agency.gov.uk/static/documents/Research/Composting__bioaerosols.pdf)
* [[http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/static/documents/Research/Composting\_\_bioaerosols.pdf](http://webarchive.nationalarchives.gov.uk/20140328084622/http%3A//www.environment-agency.gov.uk/static/documents/Research/Composting__bioaerosols.pdf)]
* How to comply with your environmental permit: Additional technical guidance for: composting and aerobic treatment sector
* [SR2012No3 (v2) Composting in closed systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no3-composting-in-closed-systems)
* [SR2012No7 (v2) Composting in open systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no7-composting-in-open-systems)
* [SR2012No4 (v3) Composting in closed system (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-4-composting-in-closed-systems)
* [SR2012No8 (v3) Composting in open systems (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-8-composting-in-open-systems)
* [Environment Agency – Composting and potential health effects from bioaerosols: our interim guidance for permit applicants](http://www.environment-agency.gov.uk/static/documents/Research/Composting__bioaerosols.pdf) [http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/static/documents/Research/Composting\_\_bioaerosols.pdf](http://webarchive.nationalarchives.gov.uk/20140328084622/http%3A//www.environment-agency.gov.uk/static/documents/Research/Composting__bioaerosols.pdf)

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# 6. C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\FJ1S42NY\MC900432680[1].pngStandards

## Learning Outcomes

* 1. Know what is required to prevent a ‘product’ being referred to as waste
	2. Know the characteristics of:
* a sanitisation regime
* a stabilisation regime
	1. Know how a Hazard Analysis Critical Control Point plan can benefit a PAS 100 certified facility
	2. Know the maximum amount of contaminants permitted under PAS 100
	3. Know the records required in order to comply with PAS 100 and the Quality Protocol
	4. Know under what conditions a compost like output can be applied to land from a non PAS 100 certified facility
	5. Know the storage requirements on land for both compost and compost like outputs
	6. Know the methods for source separation of feedstocks to meet PAS 100

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## Where do I find this information?

* [Compost Quality Protocol](http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/geho0812bwpl-e-e.pdf)
* [PAS 100: 2011 – Specification for Composted Materials (Please note you will need to request this document from WRAP, but it is free of charge)](http://www.wrap.org.uk/content/bsi-pas-100-producing-quality-compost)
* [SR2012No3 (v2) Composting in closed systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no3-composting-in-closed-systems)
* [SR2012No7 (v2) Composting in open systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no7-composting-in-open-systems)
* [SR2012No4 (v3) Composting in closed system (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-4-composting-in-closed-systems)
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# 7. C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\FJ1S42NY\MC900432680[1].pngProcess Principles

## Learning Outcomes

* 1. Know each phase of the aerobic composting process and how to manage it
	2. Know the monitoring and control requirements for the aerobic composting process
	3. Know the pH range for feedstock and how to manage it
	4. Know the nutrient ratios for feedstocks and why they are important for effective treatment
	5. Know the required moisture content for each phase of the aerobic composting process and how to manage it
	6. Know the temperature requirements for each phase of the aerobic composting process and how to manage it
	7. Know how to use feedstocks in relation to:
* Optimum size of input materials
* Preventing anaerobic conditions
* Moisture levels
	1. Know how to manage the aerobic composting process in accordance with regulatory and process requirements in the event of:
* Plant breakdown
* Equipment breakdown
	1. Know what is good practice for using collected leachate within the aerobic composting process
	2. Know why anaerobic leachate should not be sprayed onto the feedstock

![C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\QBGJHOOM\MC900433793[1].png]()

## Where do I find this information?

* [Organics Recycling Group – An industry guide for the prevention and control of odours at biowaste processing facilities](http://www.organics-recycling.org.uk/dmdocuments/Industry_guide_for_prevention_and_control_of_odours.pdf)
* How to comply with your environmental permit: Additional technical guidance for: composting and aerobic treatment sector
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* [SR2012No7 (v2) Composting in open systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no7-composting-in-open-systems)
* [SR2012No4 (v3) Composting in closed system (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-4-composting-in-closed-systems)
* [SR2012No8 (v3) Composting in open systems (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-8-composting-in-open-systems)
* [GOV.UK Fire Prevention Plans](https://www.gov.uk/government/publications/permitted-sites-fire-prevention-plans)

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# 8. C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\FJ1S42NY\MC900432680[1].pngProcess Principles

## Learning Outcomes

* 1. Know methods of preventing and managing fires on an aerobic composting facility
	2. Know the requirements for pest and vermin control
	3. Know the requirements for litter prevention and control
	4. Know the methods for minimising noise emissions
	5. Know the requirements for dust prevention and control
	6. Know the requirements for control of leachate
	7. Know the requirements for the protection of surface water, sewer and groundwater from substances not controlled by emission limits

![C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\QBGJHOOM\MC900433793[1].png]()

## Where do I find this information?

* How to comply with your environmental permit: Additional technical guidance for: composting and aerobic treatment sector
* [SR2012No3 (v2) Composting in closed systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no3-composting-in-closed-systems)
* [SR2012No7 (v2) Composting in open systems <75 tonnes per day](https://www.gov.uk/government/publications/sr2012-no7-composting-in-open-systems)
* [SR2012No4 (v3) Composting in closed system (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-4-composting-in-closed-systems)
* [SR2012No8 (v3) Composting in open systems (Part A Installation)](https://www.gov.uk/government/publications/sr2012-number-8-composting-in-open-systems)
* [GOV.UK: Fire Prevention Plans](https://www.gov.uk/government/publications/permitted-sites-fire-prevention-plans)
* WISH Guidance – Reducing fire risk at waste management sites

## Notes

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# 9. C:\Users\Helen\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\FJ1S42NY\MC900432680[1].pngHealth and Safety

## Learning Outcomes

* 1. Know what information should be included in a formal accident management plan

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## Where do I find this information?

* How to comply with your environmental permit: Additional technical guidance for: composting and aerobic treatment sector

## Notes

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