

Composting and biogas in approved plants for industry

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Background

The following guidance explains in outline the requirements for persons or businesses who wish to operate composting or anaerobic digestion plants, which require approval to receive animal by-products (ABPs) after their collection.

The Animal Health and Welfare Department can be consulted for further detailed information on Tel. 22925372/76.

The relevant EU legislation is:

- Regulation **1069/2009** hereafter referred to as the “Control Regulation”.
- Implementing Regulation **142/2011** hereafter referred to as the “Implementing Regulation”.

The texts of these regulations can be accessed on the EuroLex website¹. Please make sure you use the consolidated texts since these regulations are amended frequently.

Introduction

Composting and anaerobic digestion provide a useful means of recovering nutrients and fuel from materials that would otherwise go to waste in landfill, with methane capture the only recovery. Each site will require Approval.

At the moment, there is a presumption that composting of catering waste on the premises of origin does not need to be approved by the Animal Health and Welfare Department provided that the resultant material is also used on the same premises. This means that, for example, domestic garden compost heaps do not need to be approved, though the necessity to deny access to livestock to them remains. It is important, from a legal viewpoint to establish the source of feedstock intake, as where it originates can have an effect on how, and where, it might be used. For example, smoked salmon may be foodstuffs no longer intended for human consumption (Category 3 ABP (raw)), if sourced from a supermarket returns to depot; but would be Cat 3 Catering Waste if from a canteen or domestic kitchen; and Cat 1 International Catering Waste (ICW) if it originated from a flight that came from outside the EU. ICW cannot be transformed in a compost or biogas plant. For more information see our International catering waste page.

Systems to be used: Almost every operator will have a different system to suit the plant they operate, but it will need to comply with the provisions of the legislation. See Regulation EC No

¹ <https://eur-lex.europa.eu/collection/eu-law/consleg.html>

- **The EU Standard Method**

This requires a temperature of 70°C to be maintained throughout the whole mass for at least 60 minutes, with a particle size of no more than 12 mm in any one plane. Plants using this method can accept any Category 3 material, and certain Category 2 material that has been processed appropriately. See Regulation 1069/2009.

- **The EU Alternative Method**

This allows an operator to use parameters other than the parameters required by the EU Standard method, provided that the pathogen reduction achieved by the process as required by the Implementing regulation has been demonstrated.

- **EU novel methods**

These may be permitted by National Governments until adopted by the EU, but the material they produce is to be considered as ABP of the same as class and category as that of the feedstock.

- **National Standards**

These may be applied for transformation of Catering waste – either meat included, or meat excluded – which may be mixed with green wastes, or manures in certain circumstances. National Standards compost cannot be exported to another EU or Third country.

- **Green composting plants**

These are regulated by the national rules and cannot take animal by-products. The only exceptions for this are for certain Category 2 and Category 3 materials which can legally be applied direct to land without treatment. These include manure, digestive tract contents, milk, and milk products and colostrum. These materials can also be used in any of the ABP plants discussed above.

The Approval Process

Applications can be obtained by contacting the Animal Health and Welfare Department on Tel. 22925372/76 or sending an email to: abpsection.mafa@gov.mt

The plant (Compost or Biogas) will be granted a short (typically 3 month) Validation Approval during which time they must satisfactorily demonstrate:

- The ability of their plant to fulfill the requirements of the regulation with regard to achievement of required temperatures throughout the treated mass, for the required time
- By bacteriological sampling, demonstrate the required absence of marker organisms in the treated material.

For example:

-initial 3 month validation period (extendable).....>
- ..at least 4 successive sampled batches with negative result. > positive release

-weekly batch sampling for 3 months = 12 samples>

Positive release is granted by the Animal Health and Welfare Department after usually four to five successive batches have been tested with negative results for indicator bacteria, and will permit treated material to exit the site to controlled storage, or use on non-agricultural land.

Bacteriological sampling will be required to give negative results on twelve consecutive batches before Full Approval may be granted. Should one batch yield positive results, the testing regime begins again; from sample one being the next sample taken. As a rule, the Animal Health and Welfare Department will take one in four of the twelve samples as "Official Samples" (i.e. one a month if weekly batches).

Essential requirements

Biogas

Systems must be fully enclosed, and have no means of by-passing the pasteuriser, including condensate collection points. Sampling points should be present both after the pasteurisation point, and at storage. This applies equally to wet; semi wet; and dry AD systems.

The system should have a hydraulic retention time in excess of 18 days from pasteurisation entry for National Standards operations, though current plants HRT commonly exceeds 21 days anyway.

The pasteuriser may be placed either before the digestion tanks (pre pasteurisation) or after digestion (post pasteurisation). If the plant post pasteurises, then any materials removed from the digesters during cleaning or maintenance is to be disposed of as the same ABP Category as the feedstock.

Compost

This includes many systems, including Autothermal Thermophilic Aerobic Digestion (ATAD).

Vermicomposting may be carried out after the ABP requirements have been completed, but is not an approvable method of ABP transformation by itself.

Feedstock in an ABP approved composting plant must be composted within a closed building or in a closed system during its EU treatment, or for the first composting phase of its National Standards treatment.

Whatever system is in place, the Animal Health and Welfare Department will not permit practices that may contribute to by-pass of material or liquids at any stage of the process. This will include strict Biosecurity measures and practices by all site staff and visitors.

Animal Health and Welfare Department Inspections

will usually be unannounced, or at very short notice, unless specific tasks are required, which will be by appointment with the site.

Sampling

will usually be carried out by site staff, under the direction of the Inspector, so as to ensure site health and safety rules are observed.

E.coli, or Enterococcaceae samples will usually be taken immediately after transformation is complete, to demonstrate adequate heat treatment before possible re-contamination.

Salmonella samples will be taken during, or on withdrawal from storage to demonstrate no re-contamination with untreated materials.

Disinfectants

Used on sites should be selected from the list of those approved under national rules.

Insecticides

Should be approved for use on waste / compost sites under national and EU rules.

Disposal of depackaging debris at biogas plants.

Packaging material that is heavily contaminated with ABPs, for example blood, may not go to land fill. It must first be washed so that it is visibly clean. All washing operations and compacting for transport to skip must take place inside a building, fitted with drain to the ABP leachate system.

The 20kg derogation (allowing certain Cat 3 to go to landfill) does not apply to catering waste, nor processed former foodstuffs or pet food. These types of Cat 3 material can go to landfill anyway.

The 20kg derogation does apply to those former foodstuffs which comprise unprocessed meat, fish etc that comes from retailers/food manufacturers who generate small quantities of unwanted material. These small quantities can go to landfill.

The 20kg derogation does not apply to the packaging of raw meat that arrives at a composting or AD plant. The Cat 3 contamination of the packaging has to be dealt with as above and cannot go to landfill.