



CATEGORIES OF DIGESTATE BIOFERTILISER

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Legal Disclaimer:

Biofertiliser producers are not legally obliged to obtain accreditation. Accreditation is voluntary for those producers who wish to benefit from membership of the Bioenergy Association Accreditation Scheme.

Please note that the terminology 'digestate biofertiliser' and 'biofertiliser' are used interchangeably within this document.

The purpose of this document is to assist producers demonstrate their facility meets industry best practice in the production of Fertmark certified digestate biofertiliser.

Compliance with this publication cannot confer immunity from legal obligations.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application. In addition to the requirements of this, for application in New Zealand attention is drawn to the following statutory requirements:

Animal Products Act 1999

Animal Products Regulations 2021

Agricultural Compounds and Veterinary Medicines Act 1997

Biosecurity (Ruminant Protein) Regulations 1999

Resource Management Act 1991

Document Control

This is a controlled document.

It must be reviewed and updated as it is considered appropriate.

Triggers for review could include new information from research including field trials, pollution incidents, a change in the market, a change in legislation or case law.

Updates to will only be made if approved by the Bioenergy Association.

Each version of the document will have a version number and a control sheet which will record its status and a brief comment about the changes that have been made to it.

The document and any associated papers will be published on www.biogas.org.nz

Version	Status	Bioenergy Association approval	Date	Significant changes from previous version
1	Consultation draft			

1.0 Introduction

The Digestate Biofertiliser Certification Scheme (DBCS) has taken a risk-based approach to the variety of biodegradable organic material available for anaerobic digestion. The Scheme has developed categories that combine feedstocks together based on their origin and characteristics. These have been adapted from the EU legislation that groups animal by-products depending on their risk of spreading disease (see Appendix 1). The DBCS feedstock categories are Group A which require pasteurisation at the AD facility and Group B which do not need pasteurisation.

The type of feedstock and processing requirements for Group A and Group B also determines if there are any restrictions on the resulting biofertiliser when it is applied to land. The sensitivity of the receiving environment and end use for the land also influences any conditions or withholding period that may apply when spreading biofertiliser.

Biosolids from municipal wastewater treatment facilities are a separate class of digestate biofertiliser and require pasteurisation.

2.0 Digestate Biofertiliser Categories

The feedstock categories for certified digestate biofertiliser are determined by their risk profile, origin and characteristics,

- i. **Biosolids – digestate from municipal wastewater treatment facilities, covered by the updated “Biosolids Guidelines”¹.**
- ii. **Group A – food waste, kerbside organics, paunch grass and manures – included in the DBCS.**
- iii. **Group B – Agricultural and horticultural plant material only, agricultural break crops - included in the DBCS.**

All feedstock approved for DBCS are source segregated/separated. This means that the organic material is separated from general mixed waste at the point at which it occurs. This happens when the householder puts food waste into a separate container for collection or a manufacturer or restaurant have a process to divert food materials to a defined bin so that no rubbish or other waste is mixed with the organic waste. Waste material that is not source separated is often referred to as Municipal Solid Waste².

¹ https://www.waternz.org.nz/Article?Action=View&Article_id=1212

² Municipal Solid Waste (MSW) is often used as a feedstock to produce energy by thermal treatment.

Table 1: Feedstock for Digestate Biofertiliser

	Biodegradable Organic Material	
Biosolids	Group A (requires pasteurisation)	Group B (does not require pasteurisation)
Municipal WWTP only	Kerbside food waste collections incl FOGO Food manufacturing that is not solely plant based Primary processing, ie approved abattoirs Post consumer foodstuffs <ul style="list-style-type: none"> • Food approved for human consumption, ie spoiled • Restaurant, café, catering waste (incl milk, milk product, egg products) Fats, oils, grease, greasetrap Paunch grass DAF ex abattoir, dairy farm or factory Animal manure (biofertiliser can be used on farms from which the manure is not sourced)	Agricultural break crops Fruit, orchard/packhouse waste Vegetable, paddock waste incl stems, roots Food manufacturing that is solely plant based Brewery waste Vineyard – grape marc Animal manure (biofertiliser must be used on same farm from which the manure is sourced)

Notes

1. Biosolids digestate originating from municipal WWTP may only be applied to land in compliance with the Biosolid Guidelines.
2. Group A – feedstock descriptors adapted from EU Category 2 (permitted materials only) and Category 3. (Must include a pasteurisation stage 70C for 1 hour with maximum particle size of 12 mm). If the paunch grass and/or manure is sourced on farm and the digestate biofertiliser will be used within the same farm or co-operative, then no pasteurisation is required.

The DBCS recognises that paunch, manure and other organic materials such as milk and milk by products may be applied to land without prior processing, as stated in EU regulations. This is also common practice in NZ. The EU regulations go further and include eggs and egg by products under this umbrella. It is important to note that when this occurs, a grazing ban of 8 weeks for pigs and 3 weeks for all other livestock shall apply³.

³ Regulation 1069/2009, Option to allow Category 2 and Category 3 materials to be applied to land without processing: Article 13 (f) and Article 14 (l).

It would be reasonable to assume that in almost all examples from the above paragraph where manures etc are spread onto land, this occurs as part of normal farming activities and is spread onto land within the farm boundary or within the same co-operative.

The DBCS requirement for manures and paunch grass to undergo a pasteurisation stage is necessary where the resultant digestate biofertiliser will be applied to external farms and land.

3. Group B - is suitable for processing in an AD facility without the need for pasteurisation. It has been shown that mesophilic and thermophilic temperatures during digestion as well as adequate time, pH, quantities of volatile fatty acids and presence of ammonium and hydrogen sulphide are capable of killing fungal plant pathogens and weed seeds⁴.

For more detailed information on the types of feedstock that are approved for use for digestate biofertiliser see DBPAS 05 Digestate Biofertiliser Certification Scheme⁵, Feedstock Materials. This section also stipulates any conditions of acceptance for the feedstock.

3.0 Land use considerations

The controls for the end use of digestate biofertiliser are determined by the sensitivity of the receiving land and the category of the input feedstock. As shown in Table 2, Group A digestate biofertiliser will require a withholding period when spread onto pasture that is to be grazed because it may contain ruminant protein. However, no such restriction is required for Group B digestate biofertiliser.

Table 2: Land use matrix for digestate biofertiliser⁶

Land Use Category	Digestate Biofertiliser	
	Group A	Group B
Pasture – grazed	No graze withholding period apply ¹	No restrictions
Pasture - harvested	withholding period apply ¹	No restrictions

Digestate Biofertiliser is suitable for use with field and forage crops and pasture when best management practices are applied. Producers should check with markets when products are intended for export.

- 1- This is 3 weeks for ruminant animals and 2 months for pigs.

⁴ IEA Task 37 Digestate as a Biofertiliser https://www.ieabioenergy.com/wp-content/uploads/2010/06/Digestate_Brochure_Revised_12-2010.pdf

⁵ https://www.biogas.org.nz/documents/admin/DBPAS-05_Digetate-Biofertiliser-Certification-Draft.pdf

⁶ Matrix based on Renewable Fertiliser Matrix, Digestate and Compost Use in Agriculture, WRAP

4.0 Labelling

All categories of digestate biofertiliser must include the information as set out in Section 10 Biofertiliser Labelling and End User Information, DBPAS 05 Digestate Biofertiliser Certification Scheme. Specific information that is relevant to each category is set out below.

- Biosolids – to be determined by the Biosolids Guidelines
- Group A

This group is made from food waste which may contain ruminant protein. It is essential that labelling of the biofertiliser include a warning that this should not be fed to ruminant animals. The label should also state the relevant withholding periods before animals can be grazed if the biofertiliser has been applied to pasture.

Precautions for Use Declaration

This biofertiliser product may contain a variety of living micro-organisms, some of which on rare occasions can cause illness in humans. Serious infection is rare but can happen for older people and those with reduced immunity. Please take the following precautions:

- *Avoid handling biofertiliser in enclosed areas*
- *Avoid inhaling the emissions to air from the biofertiliser*
- *Always wear gloves and wash hands after use*
- *See your doctor if you develop a high fever, chill, breathlessness or cough*

Notice:

Do not feed to sheep, cattle, deer, goats, buffaloes, or other ruminant animals.

This product contains or may contain ruminant protein.

There must be 3 weeks between application to land and the grazing of the land by ruminant animals. This shall be extended to 2 months in the case of pigs.

- Group B

Precautions for Use Declaration

This biofertiliser product may contain a variety of living micro-organisms, some of which on rare occasions can cause illness in humans. Serious infection is rare but can happen for older people and those with reduced immunity. Please take the following precautions:

- *Avoid handling biofertiliser in enclosed areas*
- *Avoid inhaling the emissions to air from the biofertiliser*
- *Always wear gloves and wash hands after use*
- *See your doctor if you develop a high fever, chill, breathlessness or cough*

Appendix 1

The DBCS feedstock categories are guided by the EU Regulation 1069/2009 and its implementing Regulation (EC) 142/201. These legislative documents stipulate the health rules regarding animal by-products and the safe processing of such materials.

EU categories for animal by products (APB).

Category 1 – high risk

Note: Not permitted to be feedstock for production of certified digestate biofertiliser under the DBCS in NZ.

- carcasses and all body parts of animals suspected of being infected with TSE (transmissible spongiform encephalopathy)
- carcasses of wild animals suspected of being infected with a disease that humans or animals could contract
- carcasses of animals used in experiments
- parts of animals that are contaminated due to illegal treatments
- [international catering waste](#)
- carcasses and body parts from zoo and circus animals or pets
- specified risk material (body parts that pose a particular disease risk, eg cows' spinal cords)

Category 2 – high risk

Note: The DBCS in NZ accepts only manure and digestive tract content (paunch grass) as feedstock for digestate biofertiliser. Both materials must originate from healthy animals with no sign of disease. See Table 1, Feedstock for Digestate for further detail.

- animals rejected from abattoirs due to having infectious diseases
- carcasses containing residues from authorised treatments
- unhatched poultry that has died in its shell
- carcasses of animals killed for disease control purposes
- carcasses of dead livestock
- manure
- digestive tract content

Category 3 – low risk

Note: All Category 3 ABPs are suitable feedstocks for the DBCS in NZ. These must undergo a pasteurisation stage of 70⁰ C for 1 hour with a maximum particle size of 12 mm.

- carcasses or body parts passed fit for humans to eat, at a slaughterhouse
- products or foods of animal origin originally meant for human consumption but withdrawn for commercial reasons, not because it's unfit to eat

- domestic catering waste
- shells from shellfish with soft tissue
- eggs, egg by-products, hatchery by-products and eggshells
- aquatic animals, aquatic and terrestrial invertebrates
- hides and skins from slaughterhouses
- animal hides, skins, hooves, feathers, wool, horns, and hair that had no signs of infectious disease at death
- processed animal proteins (PAP) are animal proteins processed from any category 3 ABP except:
 - milk, colostrum or products derived from them
 - eggs and egg products, including eggshells
 - gelatine
 - collagen
 - hydrolysed proteins
 - dicalcium phosphate and tricalcium phosphate of animal origin
 - blood products (although any processed blood would still be subject to this guide)