



## Digestate

Digestate is a by-product of anaerobic digestion (AD), a process that breaks down feedstocks such as food waste, maize, and manures like chicken litter to generate renewable energy. When food waste is included, AD contributes to the circular economy by diverting material from landfill and converting it into a nutrient-rich resource that can be reused.

### The anaerobic digestion process:

- The different feedstocks enter the collection hall and screened for plastics and grit
- It is fed into the first digester where anaerobic bacteria are located
- Hydrolysis reactions start breaking down large molecules into smaller ones that all the different bacteria in the digester can use.
- After several hydrolysis reactions, the final stage is methanogenesis – the step where methane is produced.
- The methane is collected and sent to the National Grid to be used as renewable energy.

The liquid left in the final digester is called **digestate**. It's pasteurised above 72°C, then stored in the last silo. As a nutrient-rich biofertiliser, digestate usually meets the PAS110 ADQP standard and can replace conventional fertiliser for growing crops. However, because around 30% of its nitrogen is immediately available, its use is restricted during closed periods.

### Benefits of digestate:

- Source of N, P, K, Mg and S
- Quick uptake of available nutrients
- Match fertiliser/ crop requirements per application
- Source of moisture
- Can be applied within a GSPZ1 (if classed as a product)
- There are a variety of different pieces of equipment which can be used to suit farmer needs for example, the umbilical system for specific ground conditions and the disc injector for grass applications
- The use of precision applications are a great way to lower the risk of over applying and reduce the risk of environmental damage
- Applications can be from 12metres to 36metres
- Compliance documents provided once spreading is completed



**Dry Matter: 4.46%**

**Fines/Dust: Minimal**

**Colour: Black**

**Odour: Minimal**

**pH: 8.4**

**Accreditation: PAS110 or AD digestate**

**Options:**

**Delivered**

**Delivered and spread**

**Spread**

\*The above stats are based on typical analysis



# Application methods:

## Trailing shoe

Our self-propelled spreaders are fitted with 12m or 24m trailing shoe.

Applies digestate in narrow lines directly on the ground with a metal shoe meaning the digestate is applied near to the root system for the plants to take up the nutrients easily.

## Trailing hose

Our trailing hose spreader uses a 24m, 30m or 36m dribble bar to distribute the digestate to the surface.

Applies digestate in narrow lines directly on the ground.

## Disc injector

12m double disc injector - two discs run closely together which creates a slot in the ground, the digestate is then placed in these openings. By cutting through the top layer of roots, it encourages grass regrowth and regeneration.

## Umbilical

We offer umbilical spreading using a 12m or 24m trailing hose bar. Suitable for use when ground conditions prevent heavy machinery access. Best when the storage site is near the fields and ground is free from stones—stoney ground can damage the pipe.

Application method depends on the type of crops the digestate is being applied to. Digestate can be used on various crops, but its suitability depends on the nutrient requirements of the specific plants. It's important to conduct soil testing and adjust application rates accordingly to match crop requirements.



### Recent analysis from Olleco AD plant - target application rate of 25t/ha:

	Kg's of nutrient per fresh t of by-product (kg/t)		Kg's of applied nutrient per hectare (kg/ha)		Kg's per hectare potentially available nutrients in year 1
Nitrogen	6.00 [as N]	⇒	150.00 [as N]	⇒	78.03 [as N]
Ammonium Nitrogen	3.12 [as N]	⇒	78.03 [as N]	⇒	78.03 [as RAN]
Phosphate	1.52 [as P <sub>2</sub> O <sub>5</sub> ]	⇒	37.90 [as P <sub>2</sub> O <sub>5</sub> ]	⇒	18.96 [as P <sub>2</sub> O <sub>5</sub> ]
Potash	2.53 [as K <sub>2</sub> O]	⇒	63 [as K <sub>2</sub> O]	⇒	50.63 [as K <sub>2</sub> O]
Sulphur	0.98 [as SO <sub>3</sub> ]	⇒	24 [as SO <sub>3</sub> ]	⇒	12.22 [as SO <sub>3</sub> ]
Magnesium	0.24 [as MgO]	⇒	6 [as MgO]	⇒	3.03 [as MgO]

# Complementary products/services:

10mm & 20mm PAS100 compost, gypsum, paper crumb, paper sludge, soil testing & compliance services



Please contact our office for any questions or any further information. Latest analysis and samples available upon request. Visit our website and join our mailing list to keep up-to-date on our latest news and products.