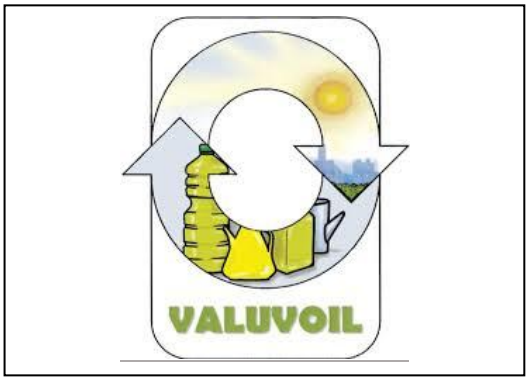
DIGESTATE FROM THE CO-DIGESTION OF VEGETABLE OILS WASTE AND PIG MANURE BY "VALUVOIL" PROCESS

Keywords: • biofertilizer • digestate•anaerobic digestion•nitrogen

Key facts:

- → **Product Category**: Organic fertilizer
- → **Input material:** digestate
- → **General appearance:** powder or little solid particles
- → **Nutrient Content (N-P-K %):** 0.09/0.2/0
- → **Product status:** tested on a small scale (pots)
- → **Limitation of application:**metals bellow the limits of its classification.
- → **Permit availability**: N/A
- → **Geographical area:**EU28
- → **Price range:**N/A



Summary:

During anaerobic digestion (AD) of organic waste to obtain biogas, between 20 and 95% of the organic matter of the raw material is degraded, depending on the composition of the raw material, and a solid-liquid by-product (digestate) is produced, which is a biologically stable and partially hygienic organic product that can be used as a fertilizer.

The composition of the digestate depends on the characteristics of the waste used for anaerobic digestion, but can be considered a mixture of water, partially degraded organic matter and inorganic compounds. The fertilizing value of digestatesshould be evaluated not only with respect to their total nutrient content, but also with respect to their availability to plants.

The digestates generated in the anaerobic digestion process, were tested in germination and microcosm experiments to determine their biofertilizer and biostimulant effects on plants and soils.

How to use:

- → **Type of farming:**conventional
- → **Cultivation methos:**open field or greenhouse
- → **Recommended crops**: permanent grassland, cereals for the production of grain,root crops and plants harvested green from arable land by area
- → **Application doses:** 80-40 m^3/ha

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Key product features:

- → Liquid fertilizer.
- → High phosphorus content product.
- → Organic matter is stabilized.
- → Nitrogen and phosphorus are mineralized.
- → Absence or minimal presence of pathogenic bacteria.
- → Odorless.

Key product benefits:

- → Soil microbial biomass size and activity increased.
- → Greater efficiency in its action.
- → Reduces the costs of managing livestock waste.
- → Greenhouse gas emissions reduction.
- → Improvement of the economic performance of anaerobic digestion plants.

Competitive position and advantages:

Why this product is best for solving nutrient recovery problems?

Currently, the objective of digestate processing is to produce a standardized biofertilizer (solid or liquid), where the quality and marketability of the anaerobic digestion residue is improved. However, digestate processing can also be approached from the point of view of digestate treatment. This approach is similar to wastewater treatment, where nutrients and organic matter from the effluent are removed to allow discharge to the sewer system or wastewater treatment plant.

What makes digestate an interesting product is its excellent quality as a plant fertilizer, based on a rich macronutrient content for plants including nitrogen, phosphorus, potassium and sulfur, various micronutrients as well as organic matter.

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