

PELLETIZED DIGESTATE FROM MIXTURE OF PIG MANURE, POULTRY MANURE AND STRAW BY "MIX-FERTILIZER" PROCESS



Keywords: • biofertilizer • slow release • organic • nitrogen

Key facts:

- **Product Category:** 1/2 Organo-mineral fertilizer
- **Input material:** digestate of pig manure, chicken manure from poultry farm, and straw (residual vegetal biomass), NaOH, H₂SO₄, (NH₄)₂SO₄, urea.
- **General appearance:** pellet (4 mm diameter)
- **Nutrient Content (N-P-K %):** 10/4/4
- **Product status:** advanced development stages
- **Limitation of application:** metals below the limits of its classification
- **Permit availability:** N/A
- **Geographical area:** EU28
- **Price range:** 400-500 €/t



Summary:

Two products have been mixed together with a nitrification inhibitor, to provide a new type of fertilizer, with a double organic/inorganic base and gradual nitrogen release, that has been tested in field trials on barley crops. This new type of fertilizer shows a number of advantages among current marketed products, which are environmental (improving soil quality, minimizing nitrogen losses through leaching of nitrates, reducing GHG emissions) and economical (cost reduction by a single application and increase in production yields). Finally, effluent treated in the stripping process has been used for sunflower fertirrigation.

How to use:

- **Type of farming:** conventional
- **Cultivation methos:** open field or greenhouse
- **Recommended crops:** cereals for the production of grain, root crops and plants harvested green from arable land by area
- **Application doses:** 300-1,000 kg/ha

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Key product features:

- Double organic/inorganic base.
- Gradual nitrogen release.
- Pellet presentation.

Key product benefits:

- Improving soil quality.
- Minimizing nitrogen losses through leaching of nitrates.
- Reducing GHG emissions.
- Cost reduction by a single application.
- Increase in production yields.

Competitive position and advantages:

Why this product is best for solving nutrient recovery problems?

New fertilizer has achieved 10% yield increase in short cycle barley crops. It contributes to improve the quality of the soil, impoverished by the use of mineral fertilizers. The soil after cultivation has higher proportion of organic matter. The controlled release of nitrogen reduces leachate losses (aquifer contamination). The GHG emissions are also lower.