

Urine from calves manure by “Geamix” separation at source



Keywords: • Separation at source • Urine • Nitrogen • RENURE •

Key facts:

- **Product Category:** liquid organic fertilizer
- **Input material:** Raw manure from calves
- **General appearance:** liquid
- **Nutrient Content (N-P2O5-K2O):** 4,3 – 0,1 – 9,6 g/kg
- **Product market status:** advanced development stage
- **Limitation of application:** Currently max 170 kg N/ha as livestock manure (230-250 kg N/ha for derogation farms in NL)
- **MS Authority permit availability:** not applicable
- **Geographical area:** The Netherlands
- **Product price:** €0/ha



Summary:

The urine is produced by separation at source of solid manure and urine. The calves stay on a steel slatted coated floor. The manure falls through the slatted floor on a perforated, urine permeable manure belt that lies under the grid floor. The urine falls completely through the perforated manure belt onto a coated sub-floor that is sloped and contains a urine trough at the lowest point. This pure urine then flows away to a closed collection outside the barn. Once a day, the coated sloping subfloor is sprayed with water so that no sediment formation occurs.

The urine that is produced is so clean and pure that the composition meets the RENURE criteria (C/N < 3) that are currently proposed by the Joint Research Centre to the European Commission (from the Safemanure project). If the EC accepts the proposal, the urine can be disposed of regionally free of charge or for a fee as a substitute for chemical fertilizers to dairy farmers, arable farmers and / or horticulturalists.

The product can be applied before sowing or planting of the crops with the same machines which are now being used for spreading slurry or liquid manure. During the cultivation of the crops the product can be applied with precision fertilising equipment. The use of low emission application techniques is compulsory to prevent ammonia volatilization. The fertilizer can be locally used at the cost of approximately €0/ha.

How to use:

- **Type of farming:** low input, conventional
- **Cultivation method:** open field
- **Recommended crops:** grassland, arable crops, horticulture
- **Application doses :** Depends on crop application rates. Currently max 170 kg N/ha as livestock manure (230-250 kg N/ha for derogation farms in NL), potential RENURE fertilizer

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Key product features:

- Liquid organic fertilizer
- Dry matter: 27,4 g/kg
- Organic matter: 7,4 g/kg
- N: 4,3 g/kg
- P2O5: 0,1 g/kg
- K2O: 9,6 g/kg

Key product benefits:

- Potential RENURE fertilizer
- Natural product
- Low in phosphate
- High N/K ratio

Competitive position and advantages:

Separation at source prevents the emission of ammonia. This results in higher N content in manure and urine.

The urine is considered a potential RENURE fertilizer. This product meets the proposed RENURE criterium of C/N < 3.

The production and usage of RENURE fertilizers allows farmers to process their (excess) livestock manure into a RENURE fertilizer. This product is a potential RENURE fertilizer which means that application will no longer be defined as livestock manure in the Nitrates Directive. This means application will no longer be limited to 170 kg N/ha.