

Exchanging easy-to-understand nutrient management knowledge with farmers

NUTRI-KNOW aims to improve nutrient management practices in agriculture by establishing an ongoing cycle of knowledge exchange for the benefit of both farmers and the environment.



RENURE

REcoverd Nitrogen from manURE

RENURE aims to prepare the agricultural sector for the use of ammonium salt fertilisers (ammonium nitrate and ammonium sulphate) by making the transition from research-based field trials to a practical evaluation at the farmer's premises.

Main challenges

The Flemish agricultural sector faces a paradoxical scenario: while there is an excess of animal nutrients available, additional nutrients are being introduced in the form of fertilisers.

Recovery of nitrogen from manure

In 2020, the European Commission proposed the "RENURE" criteria to allow the safe use of recovered nitrogen from manure as a replacement for chemical fertilisers. Stripping and scrubbing as a market-ready, innovative technology makes it possible to recover ammonium salts from manure and use them as a priority of RENURE products.

Stripping and scrubbing process

The process consists of two steps:

- Stripping: air is blown into the first compartment to remove the gaseous ammonia that is released from the thin fraction of manure or digestate due to increased pH and/or temperature.
- Scrubbing: the ammonia-rich air is sprayed with a strongly acidic solution, such as sulfuric acid or nitric acid, to form ammonium sulphate or nitrate, respectively.
- The estimated price of the operational installation is approximately €100-150/m³. It requires an annual manure processing capacity of at least approximately 20,000 tons to achieve the desired economic viability.

