

TRAINING MATERIAL

Title

Technology for N recovery as ammonium nitrate/sulphate from raw digestate with "AMFER" stripping process (ID:455)

Training

What is the technology?

The AMFER® (AMmonium FERtilizer Recovery) stripping technology enables biogas plant owners to recover nitrogen from the digestate as a valuable fertilizer.

Who is the vendor of the technology?

The company Colsen owns the IP rights for the AMFER. Colsen is an innovative family owned company, having been working on innovative solutions in the field of water, energy and the environment for 30 years.

Which other product/technologies are provided by the vendor?

Linked product: Ammonium nitrate/sulphate from raw digestate with "AMFER" stripping process (https://nutriman.net/farmer-platform/product/id_454)

Which are the advantages of the technology and the problems addressed?

The installation is designed to operate at relative low temperatures, typical waste heat can be reused from biogas plants. In proper maintained conditions there are no emissions to the environment, thus using the AMFER reduces nitrogen emission from manure storages. The AMFER can also be used to control the Nitrogen levels in the digester, which is required when feeding nitrogen rich streams like poultry manure, wheat or slaughterhouse waste. Another benefit is that the AMFER process can be used as pasteurisation. That's important when feeding animal byproducts, or when the digestate needs to be exported.

How does the technology work?

Ammonia is removed from the liquid and washed with an acid to produce an ammonium salt like ammonium nitrate or ammonium sulphate. The fertilizer has a nitrogen content of 7% (ammonium sulphate, 35% dw) or 18% (ammonium nitrate, 52% dw).

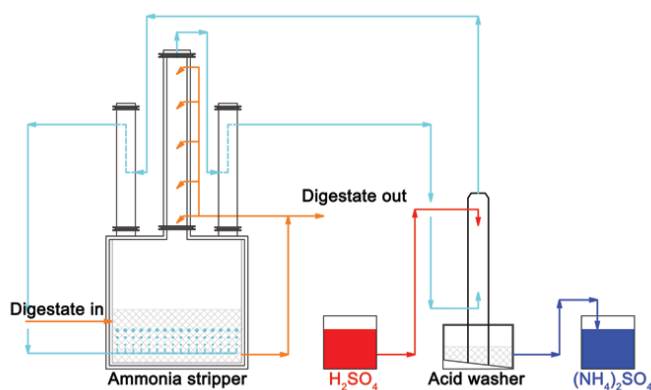


Fig.1 The scheme of the "AMFER" stripping process

Which are the authority permits and in which EU countries?

None.

How much does it cost?

Capital expense (CAPEX): EUR 350.000 for the 10.000 tons/year.

Operational expense (OPEX): EUR 50.000/year.



Fig. 2 Example of pilot installation in the Netherlands.

For more information: https://nutriman.net/farmer-platform/technology/id_455