

## EIP-AGRI practice abstract

### Short title:

Ammonium sulphate from digestate by "Biogas Bree" process

### Summary:

The hygienised remains of biogas production – digestate – contain the resilient organic fraction, water, and micro- and macro-nutrients from the digested (pig) manure and other organic (waste) streams. Washing the exhaust air, from the digestate-drying process, with sulphuric acid leads to the by-product: drainage water or an ammonia sulphate solution considered a mineral NS fertiliser. The solution produced at Biogas Bree (B) contains around 8 % N and 25% SO<sub>4</sub>. This allows the ammonia sulphate solution to perfectly meet the nitrogen and especially sulphur requirements of crops (e.g. cabbage crops, onions, celery, leeks, cereals, sugar beets, maize, etc.). The pH of the ammonia sulphate is 4 to 5,5 depending on the adjustment of the acid scrubber. Contents of pH, nitrogen or sulphur can be further optimised by mixing with e.g. urea (classic liquid nitrogen fertilizer). Based on soil analysis results (N & S), the crop requirement and the soil type, etc. the correct dosage should be calculated. Commonly however the dosage often fluctuates around 1m<sup>3</sup> per hectare. In order to make optimum use of its effect as a fertiliser, it is desirable to make the product very specifically available to the plant, either at the start of cultivation or in the form of additional fertilisation. In order to avoid the risk of burning during the administration of ammonium sulphate, especially in windy and sunny weather new specific application techniques are used (cfr UNIR project) such as draghose or spoked wheel fertilization. The Biogas Bree commodity is locally priced at around 10€/m<sup>3</sup> or around 10€/ha.

For more information: [https://nutriman.net/farmer-platform/product/id\\_274](https://nutriman.net/farmer-platform/product/id_274)