

## TRAINING MATERIAL

### Title:

Ammonium sulphate from pig manure by on-farm scrubbing the air from the stables (ID: 596)

### Training:

#### **What is the product?**

This product is a liquid fertiliser as ammonium sulphate solution recovered from air from pig stables by on-farm scrubbing process.

#### **Who is the vendor of the product?**

This product is provided by Mr. Kris Casier, the owner of the company Vancas CommV and a pig farm (Merkem, Belgium) with 400 sows. The on-site scrubbing process in the pig farm reduces the  $\text{NH}_3$  emission and produces liquid fertiliser for sale.

#### **Which are the advantages of the product and the problems addressed?**

$\text{NH}_3$  emission from the pig stables is recovered by on-farm scrubbing with sulphuric acid. This process reduces the GHG emission from pig farm and contributes to a more sustainable agriculture.

#### **Which is the nutrient content of the product?**

The resulted ammonium sulphate is a brown-colored liquid with a pH at 4,6-6,1, depending on the adjustment of the acid scrubber. The density of the solution is 1,1 kg/L and the dry matter content is around 20%. The product usually contains 41 g/kg of N in the form of  $\text{NH}_4^+\text{N}$ , which is supposed to be 100% directly available for plants. Due to the highly concentrated N in ammonium sulphate, compared to animal manure, lower amount is needed for agricultural application. In addition, the ammonium sulphate also contains around 100 g/L  $\text{SO}_4^{2-}$  providing 30 g/kg of sulphur (S). This allows the product to perfectly meet the nitrogen and especially sulphur requirements of crops. Therefore, this ammonium sulphate can be applied as a liquid fertiliser to substitute synthetic fertilisers.

#### **Which equipment and methods can be used to apply the product?**

In order to reduce the risk of emission during application, it is recommended to apply the ammonium sulphate solution via injection or immediately incorporated into soil after surface application.

**How to use the product?**

In order to use correctly the ammonium sulphate, it has to be applied this to crops in need of nitrogen and especially sulphur, e.g. cabbage crops, lettuce, potato, onions, celery, leek, cereals, sugar beets, maize, etc. This product is recommended to be applied at 1- 1,5 ton/ha, the correct dosage should be calculated based on soil nutrients status and the crop requirement. It can be applied as base fertiliser before sowing or as top-dressing according to the seasonal demand or crops.

**Which are the authority permits and in which EU countries?**

The ammonium sulphate solution can be used as a liquid mineral fertiliser. The application in Belgium is the same as synthetic fertilisers.

**How much does it cost?**

The price of the product would be 10€/ton without transport.

For more information: [https://nutriman.net/farmer-platform/product/id\\_596](https://nutriman.net/farmer-platform/product/id_596)