

TRAINING MATERIAL**Title:**

Calcium-Sodium-Phosphate from sewage sludge ash conversion with the "AshDec®" process (ID:397)

Training:**What is the product?**

The product of the AshDec® process is a phosphorus fertilizer containing the highly plant available Rhenania-Phosphate (CaNaPO_4). It is produced by thermochemical treatment of the low plant available phosphorus compounds in biomass ashes such as sewage sludge ash.

Who is the vendor of the product/technology?

The AshDec® process was developed and is offered by Metso Outotec.

Which other product/technologies are provided by the vendor?

Sustainable technologies, end-to-end solutions and services for the minerals processing, aggregates, metals refining and recycling industries globally.

Which are the advantages of the product and the problems addressed? Describe advantages/problem solved?

The P-compounds are not soluble in water, reducing environmental risks like runoff, leaching and fixation. However, the solubility in neutral ammonium citrate is > 80 %. Hence, P is released in the presence of crop root exudates, which means a P-supply on demand. The fertilizer performance was tested in several pot and field trails and is comparable to Triple-Superphosphate. Compared to untreated sewage sludge ash and conventional mineral fertilizers, it contains fewer heavy metals due to their evaporation during the process.

Which is the nutrient content of the product?

0 % N – 15-25 % P_2O_5 – 1 % K_2O , depending on the composition of the input material.

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

The product can be applied to the field with conventional technologies (spreader) but really carefully because it is a very powdery product. Indeed it could be better to use a duster. This product also can be used as a raw material for fertilizer production. The product can be stored in bags or silos.

How to use the product?

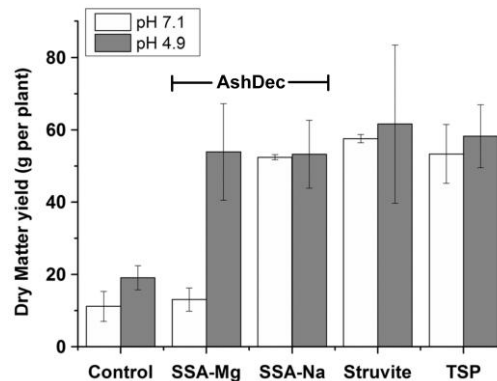
The dosage depends on the nutrient level of the soil and the crop demand as well as on the nutrient content of the specific AshDec® product. It is suitable for all sort of crops production like wheat, rape or maize. For an appropriate dosage, a soil test is recommended in advance. The application should take place before sowing and the product should be worked in flat.

Which are the authority permits and in which EU countries?

The product is accepted as a mineral fertilizer Phosphorus fertilizer in Germany. Complies with the EU Fertilizing Product Regulation EU 2019/1009 which shall apply from 16th July 2022 as PFC 1 (C) "Inorganic Fertilizer".

How much does it cost?

The product is not on the market yet.



For more information: https://nutriman.net/farmer-platform/product/id_397