

TRAINING MATERIALS' template

Title:

Technology for N & P recovery as hygenized fertilizers from liquid manure and digestate with the two-stage Regenis process via in field dewatering and drying (ID:447)

Training:

What is the technology?

The Regenis technology offers a physical separation of liquid manure or digestate into a solid and a liquid fraction with which the amount of manure in the fattening can be reduced by up to 20 % using up to 80 % of the bioenergy contained in the slurry as a WIN-WIN strategy in Biogas production.

Who is the vendor of the technology?

Since 2004, Regenerative Energiewirtschaftssysteme GmbH (REW) has been implementing innovative technology products in the field of energy production from residual biomass and renewable raw materials under the brand name Regenis. With the extensive know-how and many years of practical experience of their engineers, designers and technicians, they now realize and develop patented power generation machines and concepts of high quality. Regenis product systems can be used to produce beside fertilizer and heat also synthesis gas and/or biochar from particularly complex biomasses in an environmentally friendly and highly efficient way. Our customers and partners come from the industrial, agricultural and municipal sectors.

Which other product/technologies are provided by the vendor?

Dewatering, drying, degasification of waste biomass

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

The Regenis technology is a high efficient and less energy use technology with low operating cost (about 3 - 5 EUR/t). 50 % of thermal energy input of the dryer is recoverable, by heat recovery out of steam which comes out of the dryer. The technology requires only a hundredth of the exhaust air compared to the belt dryer but achieves a high separation rate of nitrogen and phosphor at 30 % - 60 %. A sanitation of the products takes place at the same time.

How does the technology work?

The Regenis separator is a pulling screw separator, which performs the water separation and the pressing process separately. The solid is fed to the Regenis GT dryer. The Regenis GT fermentation residue dryer is a fluidized track indirectly heated by flue gases. The solid is fed to the Regenis GT dryer. The Regenis GT fermentation residue dryer is a fluidized track indirectly heated by flue gases. On the discharge side, the dried fermentation residues are discharged downwards and the flue gases cooled during indirect heating are discharged upwards into the chimney. Output dryer: hygenized solid fertilizer 50 to 200 kg/h with ca. 1,8 % N; 2,8 % P₂O₅; 2,9 % K₂O depending on input material and grade of separation technology. The output from dewatering is a hygenized liquid fertilizer: 750 to 3000 kg/h; % N, P₂O₅; K₂O depending on input material and the grade of dewatering technology.

How/where to use the technology?

For physical separation and nutrient recovery of manure or digestate from biogas plants. Regenis GT dewatering & dryer unit removes the fermentation residue from the customer and concentrates the nutrients in hygenized solids and liquid fertilizers.

Which are the authority permits and in which EU countries?

The construction of Regenis technology is subjected to regional regulations for construction law and the immission protection law.

How much does it cost?

Regenis GE ECO is starting with about 30.000,- EUR and GT-dryer about 300.000,- EUR



For more information: https://nutriman.net/farmer-platform/technology/id_447