TRAINING MATERIAL

Title:

PHORWATER - Technology for P recovery as struvite starting from wastewater sewage with "PHORWater" controlled biological processes and struvite scaling process (ID:207)

Training:

What is the technology?

PHORWater is a technology for P-recovery as struvite from WWTPs but thinking about the WWTP as a whole**.** By controlling biological processes and struvite scaling we increase the phosphorus recovery rate and we avoid operational problems.

The innovation of PHORWater is that it faces the problem from less to more. Moving from the optimization of the integral management to increase phosphorus availability and decrease uncontrolled precipitation of phosphorus, to a new simple-operational P-recovery reactor.

Who is the vendor of the technology?

DAM - Depuración de Aguas del Mediterráneo.

DAM is a Spanish company with 25 years of experience on wastewater treatment plants operation, maintenance and management. With long experience on nutrient recovery, DAM has developed an integral model for phosphorus recovery and reuse from urban wastewater.

Which other technologies are provided by the vendor?

Kind of products/technologies produced by the vendor and main features (if applicable).

Struvite from wastewater by "PHORWater" process_208 (https://nutriman.net/farmer-platform/product/id_208)

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

PHORWater process increases P recovery rate and allows the recovery of high quality struvite with no detected Cd and very low organic matter and reduces P and N discharges into water bodies.

How does the technology work?

By PHORWater process we obtain a P-rich stream with ammonia in excess to feed the crystallizer. In the crystallization reactor, the pH is controlled and by the addition of a magnesium salt under controlled conditions to produce a high-quality struvite ($NH_4MgPO_4 \cdot 6H_2O$)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 818470

How/where to use the technology?

PHORWater has been developed for urban WWTPs, but it could also be fed by another P and N rich stream from industry.

Which are the authority permits and in which EU countries?

PHORWater has a national utility model in Spain (201630525 (8)). Several European countries are moving towards the obligation of P recovery from wastewater and this trend is expected to increase and spread through all European countries over the coming years.

How much does it cost?

A preliminary study is needed to right-size the reactor. If you are interested, please contact with DAM.

PHORWater crystallization reactor.

For more information: https://nutriman.net/farmer-platform/technology/id_207

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