EVALUATION OF POTENTIAL NUTRIENT RECOVERY FROM URINE FOR STRUVITE PRODUCTION

Context

Wastewater treatment plants are able to eliminate only organic wastes, while nutrient recovery efficiency is low in plants that usually deal with nutrient-polluted sources. The presence of urine in wastewater requires considerable efforts to eradicate nutrients; urine accounts for just 1% of wastewater load but contributes more than 50% of phosphorus (P) and 80% of nitrogen (N) in normal domestic wastewater (*Wilsenach and van Loodrecht, 2006)*, reducing the efficiency and raising the operating cost of the entire treatment process. The collection of urine to recover nutrients has become increasingly challenging recently, especially when urine is blended with wastewater. Urine separation opens up the opportunity to recover N and P from the low effluent, enrich the nutrients and simplify the wastewater treatment.

Objectives

The study is conducted based on two main objectives:

- Assess potential nutrients from urine;
- Evaluate the factors affecting the formation of Struvite;

Overall research content

- Storage condition: Evaluating the change of urine composition at different storage condition by the time; and Finding out the appropriate storage condition
- Effect of struvite formation: Determining the characteristic of fresh urine; Evaluating effect of Ca and Mg precipitates and Evaluating effect of pH and Mg/P ratio

Qualification requirement

- Passion for research, honest and responsibility

Length of the internship: 3-5 months

Coaching institution: Ho Chi Minh City University of Technology (HCMUT) & CARE-RESCIF

Location of the internship: HCMUT