



Analysis of accepted substrates for anaerobic co-digestion at the WWTP in Straubing, Germany [

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Analítica

The adoption of new forms of energy production is one of the challenges faced by countries worldwide due to the progressive depletion of fossil fuels. In this regard, the co-digestion of organic waste in Wastewater Treatment Plants (WWTP) has gained widespread acceptance, as it not only provides an alternative for the utilization of several types of biomasses to meet energy needs but also assists in waste management and nutrient recovery. However, accepting additional substrates for co-digestion requires careful physicochemical studies, as their characteristics can influence both the stability of the process and the quality and production of biogas. In line with the above, this study implemented the case study method through descriptive analysis to evaluate the substrates accepted for anaerobic co-digestion in the Straubing WWTP in Germany (SER GmbH). As a result, it was found that floating fats (C1) and milk with inhibitors (C5) were the substrates that exhibited the highest biogas production per unit of treated mass, 90% more than distillation residues and 70% more than raw sludge. These findings underscore the importance of carefully selecting substrates for co-digestion in WWTPs, highlighting the potential to harness valuable resources, as evaluated in this study, to increase efficiency in biogas production and, therefore, promote a more effective transition to sustainable energy sources in the global context. The Straubing WWTP in Germany thus becomes an example of the possibilities offered by co-digestion in sustainable energy generation and waste management. The inclusion of floating fats and milk with inhibitors as successful substrates illustrates how research and careful implementation can optimize the performance of these facilities

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Baratz Innovación Documental

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es