Recovery of volatile fatty acids from digestate: proof of concept

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The ability of the volatile fatty acids (VFAs) to be transformed into other platform chemicals makes them an alternative to petrochemical derivatives. VFAs also serve as drop-in chemicals. They have potential markets in animal feed, cosmetics, solvents, adhesives, food, bioenergy and pharmaceuticals. The recovery of VFAs from digestate (i.e. waste) matches the need to approach a circular economy, including resource recovery, reuse and recycling. This study presents the experimental proof of concept for an innovative and sustainable method for recovering VFA, which involves gas stripping with chemical absorption.

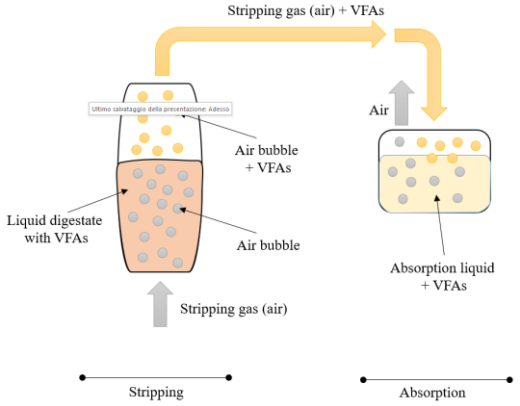

Figure 1. Schematization of the VFA recovery experimental set-up

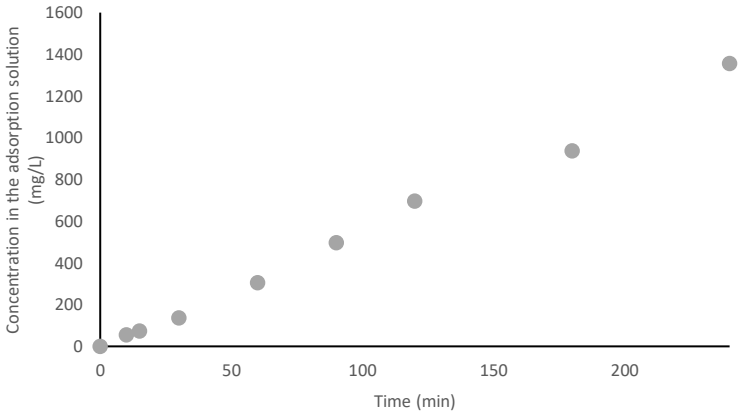

Figure 2. Acetic acid concentration in the absorption solution

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