

WFBR Bioconversion Internship Project

Title: Oils production from waste streams and CO₂



Short project description:

At the Bioconversion group of Wageningen Food & Biobased Research we are working towards sustainable and efficient production of fatty acids and oils by microorganisms. Some microorganisms, including oleogenous yeasts, are able to produce oils that are very similar to vegetable oils, like palm oil or sunflower oil, and fatty acids with a wide range of applications in food, feed, cosmetics and cleaning products. These microorganisms can grow on waste streams rich in sugars, on glycerol, and/or organic acids, and accumulate in the cell up to 60% of dry weight as and fermenteconducts a substantial amount of research into the possibilities of yeasts to make fatty acids and oils.

In the Electron to Fatty Acids (EFA) project we work with a microb that is able to produce microbial oil that resembles vegetable oils (like palm oil or sunflower oil). In this project, biological technologies are used to customise the fatty acids composition and to enable the microorganism to grow on organic acids derived from CO₂.

Techniques to be used: cultivation of microorganisms, fermentation (aerobic, anaerobic), HPLC, GC

Link: <https://www.wur.nl/en/project/electrons-and-co2-to-fatty-acids-through-electrolysis-and-fermentation-efa.htm>

Expected student level (HBO, WO; BSc, MSc): HBO, WO (BSc, MSc)

Expected study programs: programs containing Microbiology, Genetics and/or Fermentation

Project duration: minimum of 4 months

Potential starting date(s): in agreement with the student

Student grant available? Depending on the rules, if applicable.

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