

## Abstract proposition – CO<sub>2</sub> Based Fuels and Chemicals conference 2026

### **CCU for Food – The development of more sustainable and resilient solutions for food production through an open innovation approach**

Lesaffre is a century-old business specializing in the production of microorganisms, biotech and fermentation-based solutions. For decades, Lesaffre's fermentation processes have relied on agricultural, biogenic carbon sources, such as by-products from the sugar industry. Today, the company is innovating by launching an ambitious research and development program focused on a new generation of carbon molecules aimed at complementing these agricultural carbon sources.

This program seeks to evaluate multiple emerging technologies capable of capturing and converting CO<sub>2</sub> into small molecules such as C1 and C2 compounds, which will then serve as feedstocks for fermentation. Through this approach, we are exploring a novel and innovative value chain where CO<sub>2</sub> becomes a resource for producing high-added-value food solutions.

This presentation will shed light on the preliminary results of this initiative, notably through a Life Cycle Assessment evaluating impacts on land use, carbon emissions, and water consumption. We will also emphasize our collaborative methodology, bringing together industrial players, startups, and academia to address the complex challenges of Carbon Capture and Utilization.

Valorizing CO<sub>2</sub> to produce food could redefine how we view agri-food systems, with the potential of making them not only more sustainable but also more resilient to the impacts of climate change.