

LEDitSHAKE

Securing the future of active ingredient supply with light-optimized plant cells

The Project

Plant cell cultures can make a significant contribution to securing the supply gap with active ingredients for use in cosmetics and personal care products, but also as food additives and plant protection agents in a sustainable way. They can be cultivated in bioreactors regardless of seasonal conditions, available acreage, and with complete elimination of pesticides, which enables high quality, security of supply, and local production (SDG 2 & 12). Light of specific wavelengths can influence the growth behavior and metabolism of the plant cell cultures and positively affect the production of biomass as well as desired ingredients. LEDitSHAKE is a fully functional lighting system with different LEDs (RGB, IR, UV) to address the influence of light on plant cell cultures and to develop optimal recipes to increase biomass and ingredients – without using genetic engineering.

The Team

Location: Fraunhofer IME, Aachen

Members: **Ann-Katrin Beuel** (project lead, developer of LEDitSHAKE, expert light-optimized plant cell cultures), Leonie Voss (expert plant cell fermentation)

AHEAD Infos Batch: 1.2022

Phase: 2

Track: Spin-Off

The Business Model

Unique Selling Proposition:

LEDitSHAKE helps companies by finding optimal light conditions for plant cell cultures leading to enhanced ingredient yields of valuable plant ingredients.

Unfair Advantage:

LEDitSHAKE offers the possibility to test 12 lighting conditions within 1 shaking incubator (standard incubator: 1 condition) → state-of-the-art. Patent application running.

Revenue Model:

Production

Venture Readiness Level



Technology Readiness Level



The Side Facts

Customer Focus: B2B

Searching For:

PoC partner, (Pilot) customers, expert interview partner, investors, mentors

Industry Tags:

Food & beverages, health care, technology hardware & equipment

Technology Tags:

(3D printing), agriculture innovation, ethical consumption, food alternatives, lab equipment