

<b>Algemene gegevens</b>	
PPS-nummer	AF-EU-14006
Titel	MIRACLES: Multi-product Integrated Biorefinery of Algae
BAPS nummer	BO-21.04-001-019
Topsector en innovatiethema	Valorisatie grondstoffen AF biobased
Projectleider (onderzoek)	Dr. Lolke Sijtsma
PPS-coördinator (namens private partij)	-
Contactpersoon overheid	-
Status (lopend of afgerond)	Lopend
Type onderzoek (F, T of V)	T
Werkelijke startdatum	1 November 2013
Werkelijke einddatum	30 Oktober 2017
Korte omschrijving bijdrage DLO aan project	DLO is involved in the development and management of integrated biorefinery technology, employing mild disruption, green extraction and fractionation technologies to produce multiple specialty products from microalgae biomass.

<b>Highlights</b>
<p>Microalgae are a promising feedstock for the sustainable supply of commodities and specialties for food and non-food products. Despite this potential, implementation to date is limited, mainly due to unfavourable economics. Major bottlenecks are the lack of available biomass at acceptable costs and the absence of appropriate biorefinery technologies. MIRACLES is an industry-driven R&amp;D and innovation project aimed at developing integrated, multiple-product biorefinery technologies for the production of specialties from microalgae for application in food, aquaculture and non-food products.</p> <p>During the first year of the project analytical methods and the overall chemical composition of the selected algal strains for the project have been established. Furthermore, technologies for cell wall weakening and cell disruption methods were developed and tested. Soluble protein can be a useful marker for disruption monitoring.</p>

<b>Opgeleverde producten</b>
<p><u>Reports</u> Christien Enzing, Matthias Ploeg, Maria Barbosa, Lolke Sijtsma Microalgae-based products for the food and feed sector: an outlook for Europe. jrc scientific and policy reports. JRC85709. <a href="https://ec.europa.eu/jrc/sites/default/files/final_version_online_ipts_jrc_85709.pdf">https://ec.europa.eu/jrc/sites/default/files/final_version_online_ipts_jrc_85709.pdf</a></p> <p><u>Publications</u> Mauro Vigani, Claudia Parisi, Emilio Rodriguez-Cerezo, Maria J. Barbosa, Lolke Sijtsma, Matthias Ploeg and Christien Enzing (2014). Food and feed products from microalgae: Market opportunities and challenges for the EU Trends in Food Science &amp; Technology January (2015). <a href="http://dx.doi.org/10.1016/j.tifs.2014.12.004">http://dx.doi.org/10.1016/j.tifs.2014.12.004</a></p> <p><u>Websites:</u> MIRACLES: Multi-product Integrated Biorefinery of Algae. Project website. <a href="http://miraclesproject.eu/">http://miraclesproject.eu/</a></p>