



# AlgaeBREW

*Unlocking the potential of microalgae for the valorisation of brewery waste products into omega-3 rich animal feed and fertilisers*

## 2022 Project Newsletter

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### HAPPY HOLIDAYS!

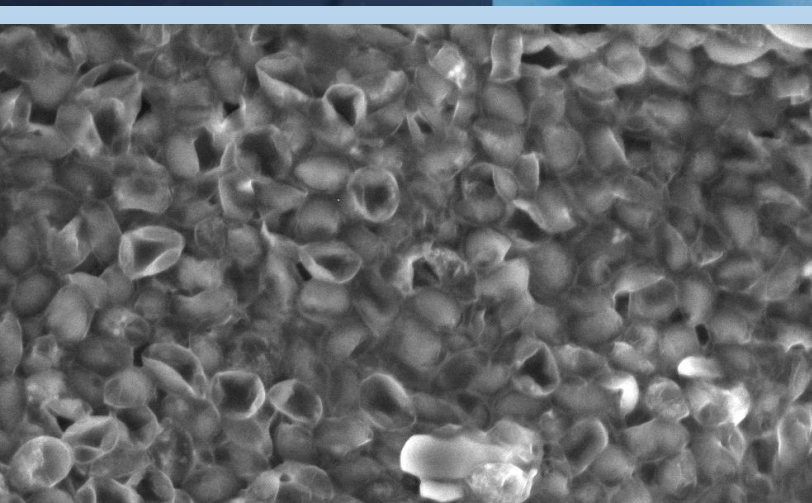
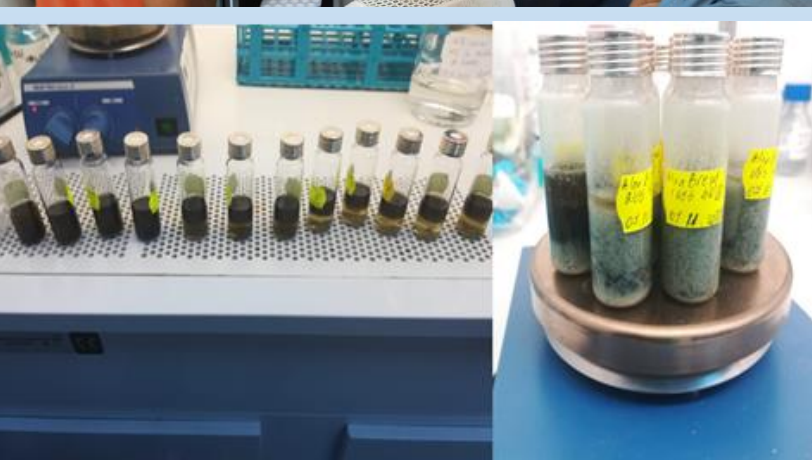
Over the past 9 months, the AlgaeBrew team has delivered fruitful results on project activities. This newsletter provides a snapshot of some of the year's best moments, from first meeting project to the laboratory level work. If you find yourself inspired or yearning for more information about our work, we've got you covered – simply visit our website or connect with us on social media!

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### CONNECT WITH US



[www.usamv.ro/index.php/ro/1189-algaebrew](http://www.usamv.ro/index.php/ro/1189-algaebrew)  
[www.susfood-db-era.net/main/AlgaeBrew](http://www.susfood-db-era.net/main/AlgaeBrew)



UPCOMING EVENTS 2023-2024

CONFERENCES

Partners were able to attend and present AlgaeBrew activities at a wide range of meetings, workshops and conferences including:

International Conference "Agriculture for Life, Life for Agriculture", between 8<sup>th</sup> and 10<sup>th</sup> June 2023, Bucharest, Romania

IX South-Eastern Europe Symposium on Vegetables and Potato, 5-9 September 2023, Bucharest, Romania

11<sup>th</sup> Annual European Algae Industry Summit will take place on the 19th-20th April 2023 in Lisbon, Portugal

As it is presented in many studies, in the global context the world population is increasing. Along with this, there will be an increase in the need for food and implicitly resources of any kind. Also, these resources in turn are renewable and non-renewable, both being exhaustible at a certain point.

In this context, we are forced to find or explore alternative sustainable edible sources that can satisfy human and animal nutritional needs and reduce competition in the use of conventional ones.

Eicosapentaenoic fatty acid (EPA) is essential for the immune system and widely used in dietary supplements for human and animals. Commercial EPA production relies on fish oil derived from wild-caught fish, thereby putting enormous strain on the fish stock and the ocean ecosystem. A group of microalgae known as *Nannochloropsis* produces EPA naturally and can be exploited as an alternative source of EPA. By recapturing waste nutrients, *Nannochloropsis* can help breweries treat their waste products while producing sustainable EPA. This will be a win-win solution for both breweries and EPA producers.

AlgaeBrew aims to develop scalable processes that use *Nannochloropsis* to upgrade brewery wastewater and spent grain into high-value EPA for the feed industry. The residual *Nannochloropsis* biomass after EPA extraction will be developed into biofertiliser to achieve a zero-waste goal. The project will address technical challenges associated with *Nannochloropsis* cultivation on brewery waste, EPA extraction, feed formulation and socio-economic analysis.

The project will be undertaken by 7 universities, a beer producer (Diageo) and an animal feed producer (Lambers Seghers) across 4 EU (Ireland, Belgium, Italy, Romania) and 3 associated countries (Morocco, Turkey and the UK). Our estimation suggests that the brewery-microalgae system proposed by AlgaeBrew has a future potential to treat up to 26.8% of spent grain and 19.3% of brewery wastewater produced globally, while replacing the global demand for 21.6% of fish oil.

