



ENFiber

European Network for Valorising Food
Processing Waste into Sustainable Fibers

Valorisation of Fruit Waste to Obtain Microalgae Biomass with High Dietary Fiber Content

Bengü ERGÜDEN

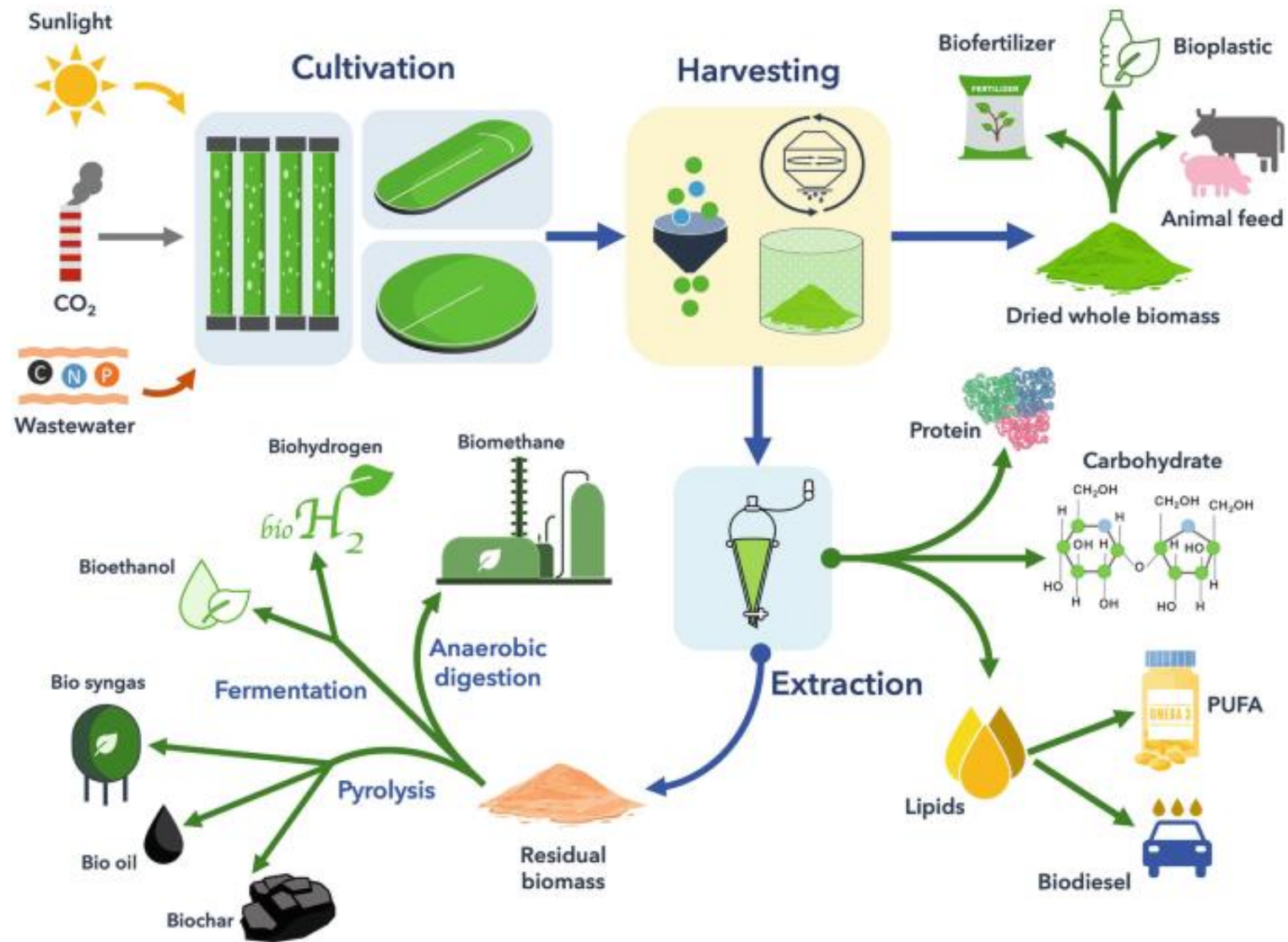
Assoc. Prof.

Gebze Technical University, Türkiye



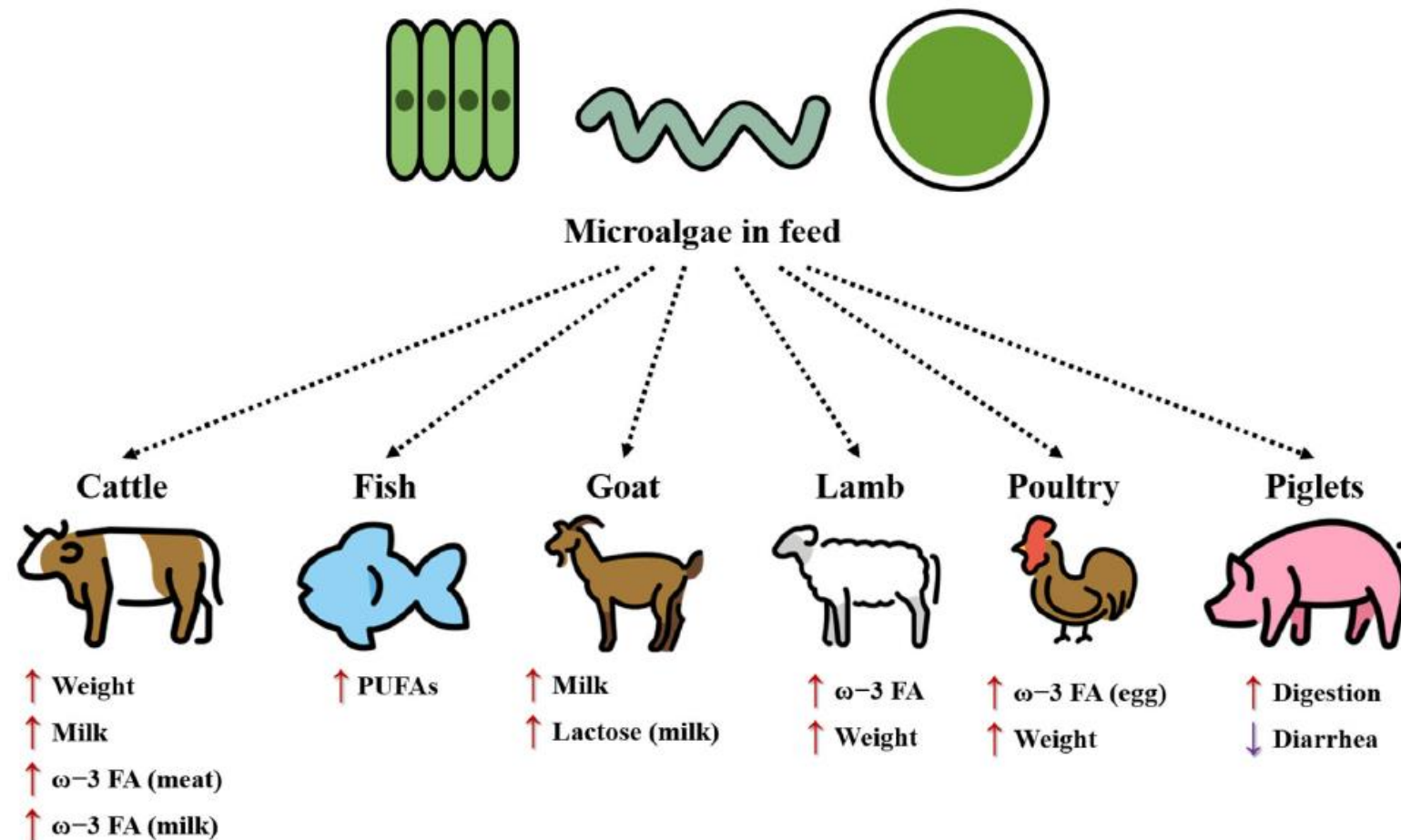
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Amorim et al. (2021) Microalgae proteins: production, separation, isolation, quantification, and application in food and feed, *Critical Reviews in Food Science and Nutrition*, 61:12, 1976-2002, DOI: 10.1080/10408398.2020.1768046

Microalgae in Food



Guil-Guerrero, J.L.; Prates, J.A.M. Microalgae Bioactives for Functional Food Innovation and Health Promotion. Foods, 2025,14,2122. <https://doi.org/10.3390/foods14122122>



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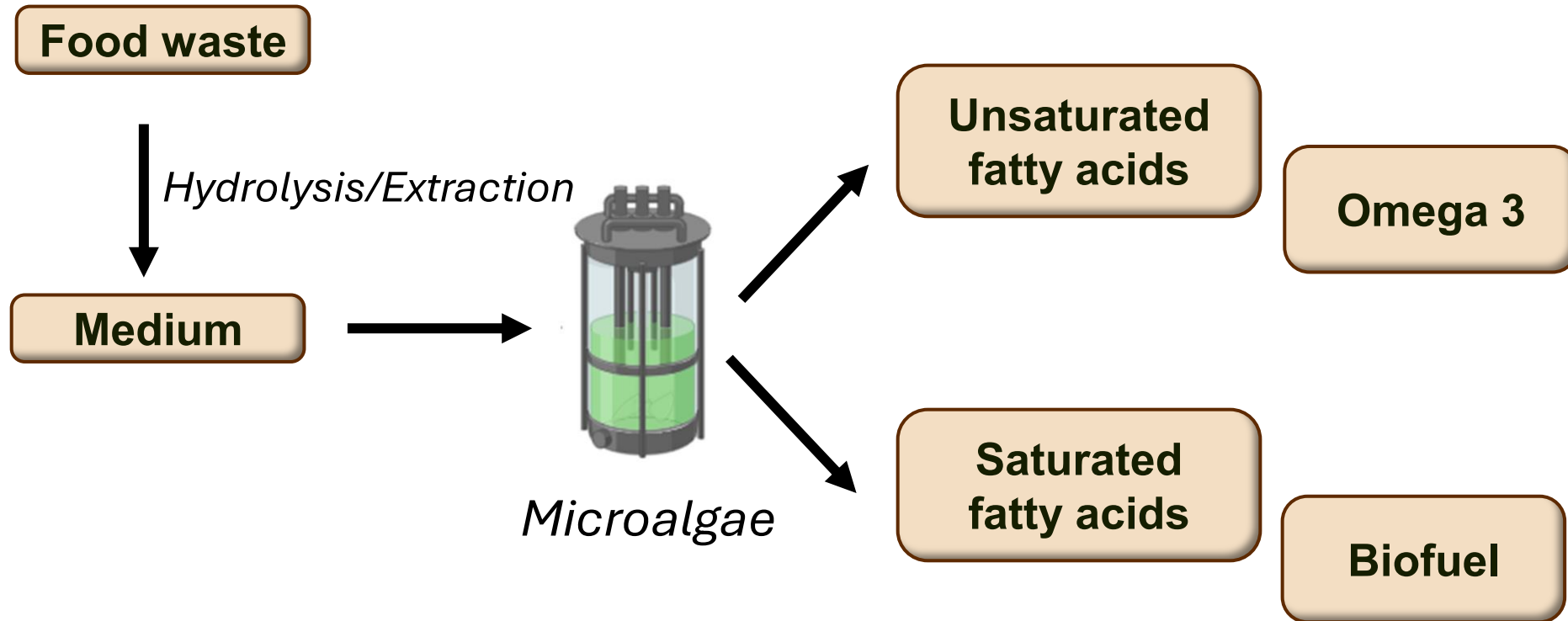


Microalgae in Food

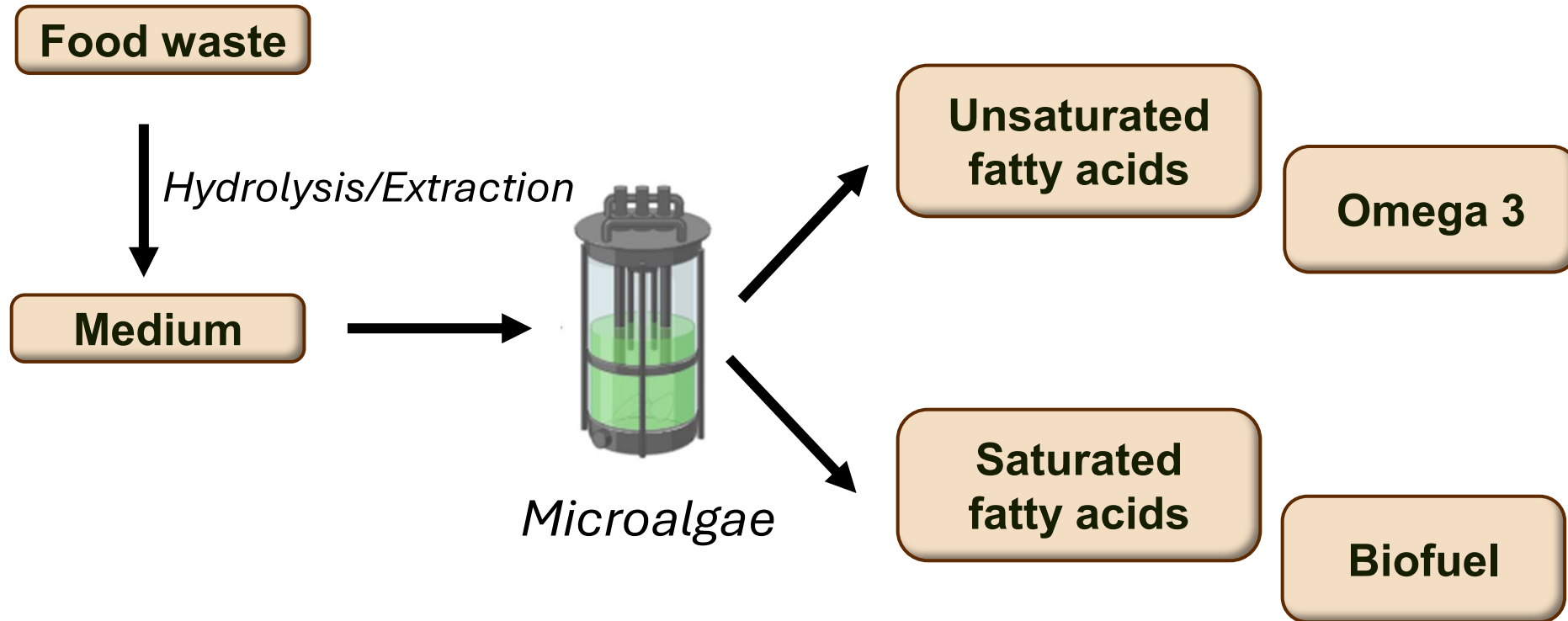
Species	Total dietary fiber (%)	Lipid (%)	ω -3 (% lipid)
<i>Arthrospira platensis</i>	15	8	4
<i>Chlorella vulgaris</i>	28	21	11
<i>Isochrysis galbana</i>	32	24	8
<i>Nannochloropsis oculata</i>	22	28	3

T=25 °C, pH=7, 25 ppm salinity, 100 μ mol photons/m²s light intensity

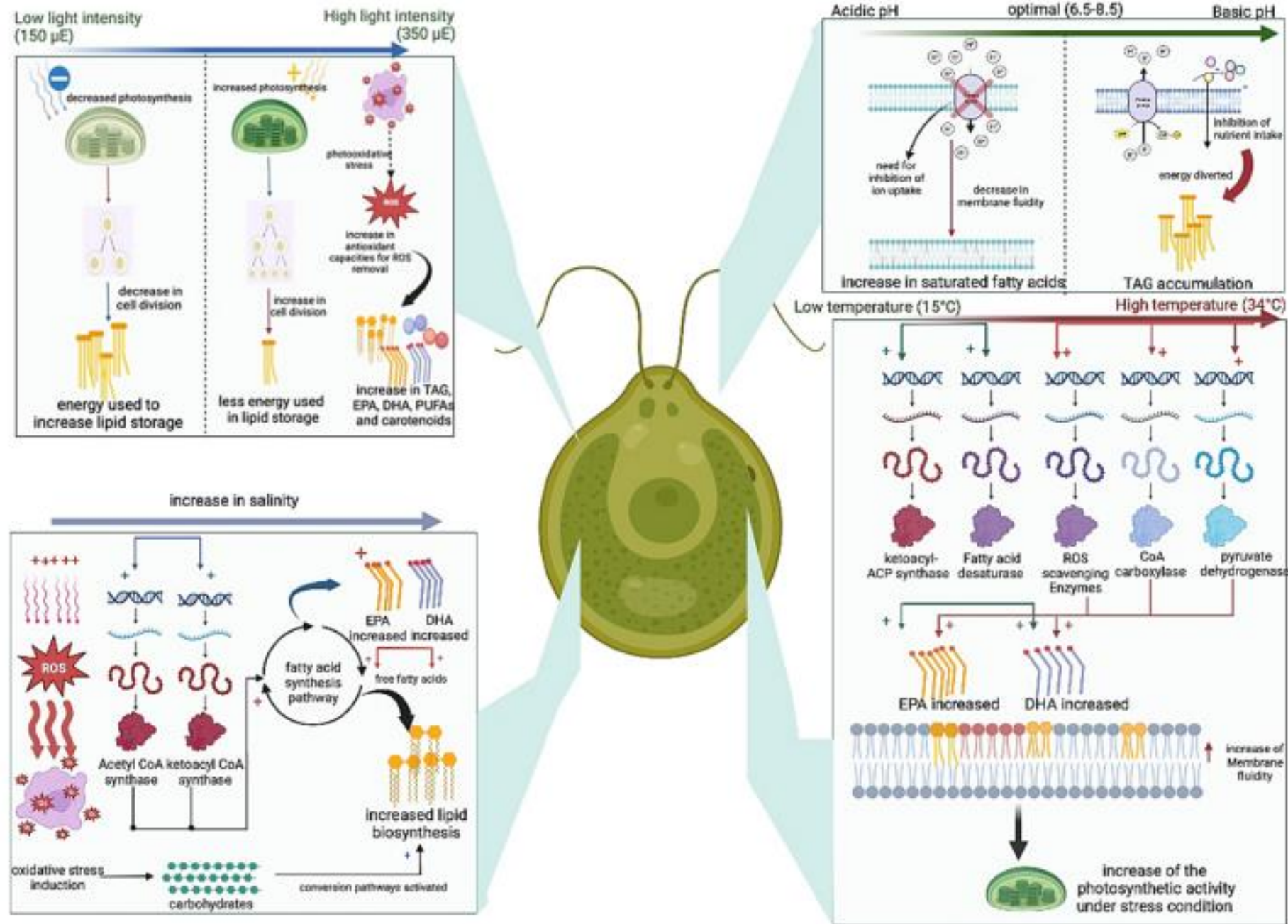
Valorisation of Food Waste in Microalgae Cultivation



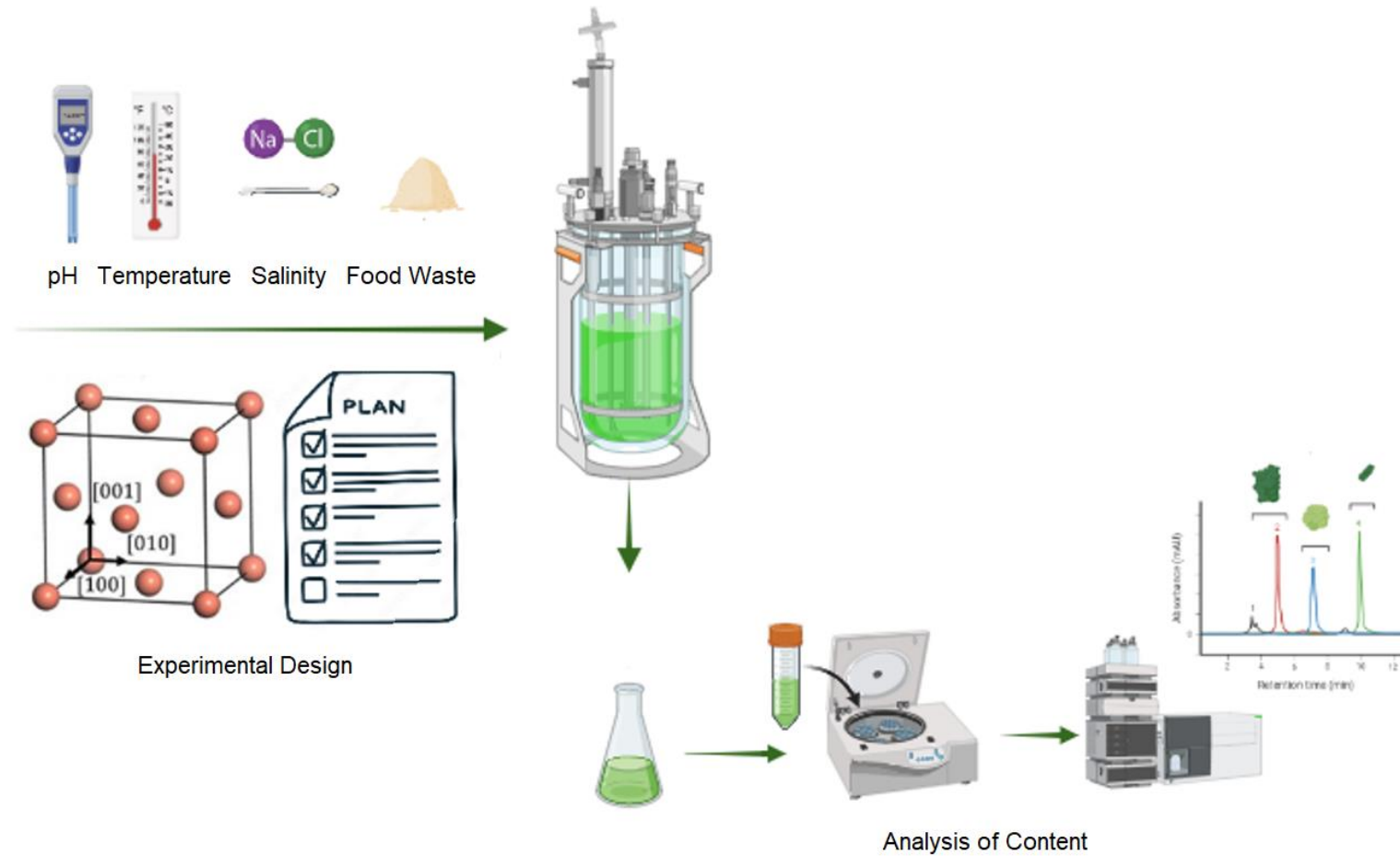
Valorisation of Food Waste in Microalgae Cultivation



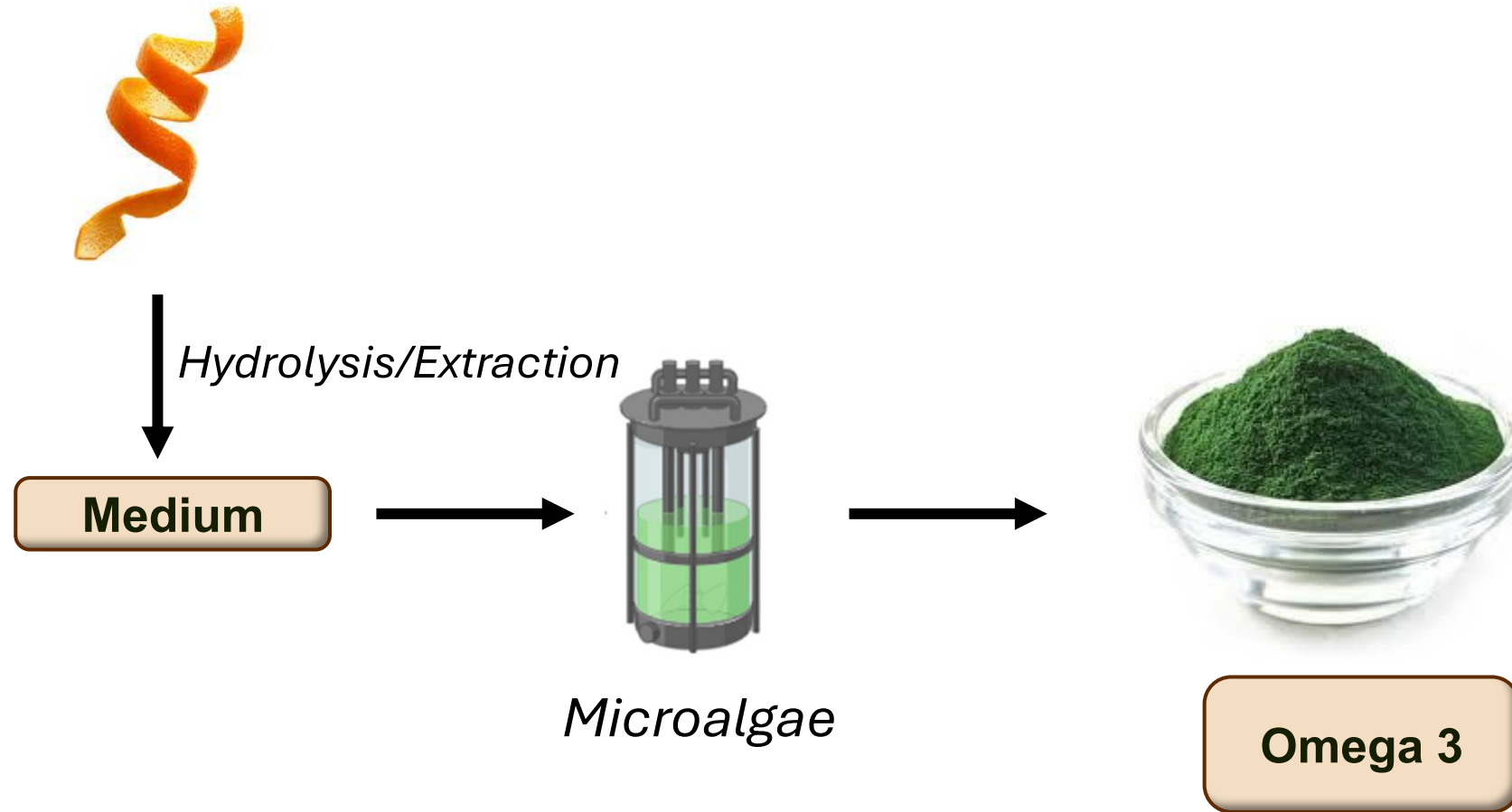
Ergüden et al. (2026) Biofuels, DOI: 10.1080/17597269.2026.2633458
Ergüden et al. (2026) Biofuels, Bioproducts and Biorefining (Biofpr)_



Valorisation of Food Waste in Microalgae Cultivation : Experimental Design



Valorisation of Orange Peel Waste in Microalgae Cultivation



Acknowledgement



Thank you



ENFiber Conference

Organizers

GEBZE TECHNICAL UNIVERSITY
DEPARTMENT OF BIOENGINEERING



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