Title (8)	:	**Preliminary Screening of Agri-food Waste for Potential Recovery of Microalgae Biostimulant**
Journal	:	AIP Conference Proceedings
Document Type	:	Conference Paper
Publisher	:	AIP Publishing
UniKL Author	:	Khairul Faizal Pa'ee; Kelly Yong Tau Len
Link to Full Text	:	https://pubs.aip.org/aip/acp/article-abstract/3041/1/050002/3269781/Preliminary-screening-of-agri-food-waste-for?redirectedFrom=fulltext
Link to Scopus Preview	:	https://www.scopus.com/inward/record.uri?eid=2-s2.0-85188294915&doi=10.1063%2f5.0196834&partnerID=40&md5=89c7e176150ab3b01d3453d712c297a5
Abstract	:	In recent decades, poor management of agri-food waste has imperiled the existing ecosystem and mankind with serious pollution issues. On the other side, microalgae biomass has been considered as a robust biological solution to fulfill the green energy demand apart from its genuine multi-functionality for carbon dioxide sequestering and wastewater phycoremediation. However, low microalgae productivity is a critical hindrance to be tackled for the successful commercialization of microalgae biodiesel. Hence, the present work investigates the feasibility of agri-food waste such as corncob, banana peels, and onion residues as potential biostimulants for lab-scale cultivation of C. vulgaris. Among all the tested biostimulants, an improved growth performance was attained when C. vulgaris was supplied with biostimulant derived from onion residue, recording biomass concentration of about 1.34 g/L at day 14, which was 81.72% higher than control culture without any biostimulant supplementation. Moreover, despite its outstanding growth-promoting effect, there was no significant drop in the lipid yield of microalgae cultured using onion residue-based biostimulant, demonstrating its effectiveness as a promising low-cost microalgae biostimulant. On the contrary, biostimulant extract prepared from corncob and banana peel retarded the growth of C. vulgaris at the end of the cultivation cycle without any augmentation effects on the biomass or lipid.