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## Increased lipid productivity of *Scenedesmus dimorphus* using optimized pulsed electric field

Seong-Hyun Seo<sup>1,2</sup>, Hyun-Joon La<sup>1</sup>, Gang-Guk Choi<sup>3</sup>, Chuhyun Cho<sup>4</sup>, Ankita Srivastava<sup>1</sup>, Beom-Ho Jo<sup>5</sup>, Jae-Yon Lee<sup>1</sup>, Yun-Sik Jin<sup>4</sup> and Hee-Mock Oh<sup>1</sup>

<sup>1</sup>Korea Research Institute of Bioscience and Biotechnology, Republic of Korea

<sup>2</sup>Hanyang University, Korea

<sup>3</sup>KAIST, Republic of Korea

<sup>4</sup>Korea Electrotechnology Research Institute, Republic of Korea

<sup>5</sup>National Institute of Ecology, Republic of Korea

An alternative stress inducing method, a Low-Energy Pulsed Electric Field (LE-PEF) was used to improve the lipid productivity of microalgae cultures. A large shift in the Nile-Red stained peaks towards a higher intensity in fluorescent-activated cell sorting, suggestive of an increased neutral lipid content was observed when 10 kV LE-PEF pulses were applied to 800 mL batch cultures of *Scenedesmus dimorphus*. The optimal LE-PEF on-off cycle treatment for *S. dimorphus* was 10 s on and 60 s off for 15 min with 6 cycles per day. Under these optimal LE-PEF treatment conditions, *S. dimorphus* showed an overall 25.6% increase in lipid productivity. Therefore, based on these results LE-PEF can be regarded as a promising tool to avoid the lipid content-growth rate tradeoff and improve the lipid productivity of microalgae in various cultivation systems.

### Biography

Seong-Hyun Seo is a Master's student of Hanyang University and Korea Research Institute of Bioscience and Biotechnology. He studies optimization of microalgae culture conditions for biodiesel production.

[heemock@kribb.re.kr](mailto:heemock@kribb.re.kr)

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