

Suggested edits through p.3.

Line 29 tense disagreement and run-on sentence.

29 Microalgae cultivation has been widely studied due to microalgae's potential microalgae as a
30 source of food, biofuel, and various bioactive compounds. These are useful for important
31 processes such as the cleaning of residual waters, CO₂ capture, and H₂ synthesis.

Line 34 was not a complete sentence.

34 microalgae was compiled by Havlik and co-workers (Havlik et al., 2016).

Line 34 tense disagreement and run on sentence.

There are several photobioreactor models to predict growth (References?). However, actual measurements are required to monitor and optimize the algae growth process. Disadvantages of sampling include the potential for contaminating the culture, disturbing the algae's physiological state or modifying the volume of the medium.

35 ~~most cases the performance of measurements requires the extraction of samples by syringes or pipettes,~~

36 ~~which could pollute the culture, disturb algae physiological state, or modify the volume of the medium, to~~

37 ~~mention only a few disadvantages.~~

Line 37 Sentence grammar. Run on sentence.

Another challenge for real-time measurements is the wide range of ~~range-increment~~

38 ~~in the concentrations encountered in microalgal cultures.~~ The concentration routinely increases by up to three times the original orders

39 of magnitude and this prevents direct measurement by most analytical methods, ~~which is out of the range of most devices~~ (Antal et al., 2019).

Line 43

chloroplastes should be chloroplasts

Line 48

also contains a reactive center called P680 which is formed by two attached Chl a molecules.

Line 52

vary. ~~As an~~ For example, at room temperature, Chl a fluorescence around $\lambda=685\text{nm}$ is largely emitted by PSII

Line 60 Replace semi-colon with a comma.

where photochemical reactions take place; however, a part

Line 62

the excited Chl molecule undergoes one of three processes: it can be These include (i) ~~used to~~ drive photochemical

Line 83-85

Therefore, two room temperature, fluorescence methods

84 methodologies are proposed in this study in order to measure *Chlamydomonas reinhardtii* (*C. reinhardtii*)

85 culture growth, ~~through fluorescence measurements at room temperature~~: The first is an analytic off-line optical

86 technique and the second involves an on-line digital images analysis.

Line 91

and easy to install and assess Do you mean, “and easy to implement and assess”

Line 94

potheses were that *C. reinhardtii* culture cell cell culture concentration correlates with (1) the off-line Chl fluorescence

95 ratio F_{685}/F_{740} and (2) the on-line images culture color, and (3) the on-line image culture fluorescence.

Line 116

the only difference for was the initial microalgae concentration, x_0 : These were labeled as Experiment A; ($x_0 = 34 \pm 2$ mg/L) and

117 Experiment B; ($x_0 = 42 \pm 2$ mg/L).

Line 117

In summary, a total of 270 measurements were made for every off-line

Line 118

experiments. Therefore, the number of measurements provides statistical significance to this study.

Line 123

(Figure 1b). Five experiments were performed, each during the five days of sampling. ÷ These included three experiments with continuous

Line 131

to measure fluorescence after a dark-adapted period, at least 15 min of darkness ~~was~~ **were** provided before