

Interactive comment on “Optimizing the impact of temperature on bio-hydrogen production from food waste and its derivatives under no pH control using statistical modelling” by A. Sattar et al.

Anonymous Referee #2

Received and published: 8 September 2015

The study by Sattar et al. focuses on hydrogen production from food waste under mesophilic and thermophilic temperatures. The most interesting and novel aspect is testing the food waste and its derivatives under same physio-environmental conditions, the authors were able to mapping out the drop in pH with time for all the tested wastes under mesophilic and thermophilic conditions from a single starting value of pH 7. It provided better understanding regarding the impact on temperature on drop in pH with respect to time. Furthermore this study is one of the few studies that observed temperature impact on hydrogen production from food waste using mix consortia of clostridium. Like Shin et al. (doi:10.1016/j.ijhydene.2003.09.011) reported temperature impact on food waste but the microbial culture for used were different under different temper-

C5019

atures and Fang et al. (doi:10.1016/j.ijhydene.2005.07.005) who used boiled rice for studying the impact of temperature at specific controlled pH. So such studies can compare hydrogen production potential of tested waste but change in methodology raised some questions over such comparisons. So, the authors are well aware of this issue and designed the study to provide better comparison of food waste with rice waste as well as with newly focused noodle waste. The introduction part needs to address this issue and by citing the previous work, introduction part will clearly address this gap. Comparing the yield obtained in this study with previous work (in term of a table) will also be a good addition in this paper. Apart all, the manuscript is acceptable for publishing after minor revision. Here are some specific/ technical comments, which need to be address In abstract, line 8-9 need to be check, there are some typing mistakes regarding waste type and temperature condition mentioned. Line 22-24, please explain the better understand term. Introduction part, page 12825, line 5-6, 12-13 need revision for better representation In results and discussion part, page 12833, line 6-9 is a long sentence and may confuse the reader, so it is better to split them in two or more sentences. On the same page, line 20, delete a before daily. On next page 12834 line 1, delete “was” and line 24 also need revision.

Interactive comment on Biogeosciences Discuss., 12, 12823, 2015.

C5020