Review of: "Techno-Economic Fermentative Microbe-Based Industrial Production of Lactic Acid (LA): Potential Future Prospects and Constraints"

Luiz Fernando Bandeira

Potential competing interests: No potential competing interests to declare.

There has been an effort of authors to bring updated information about a relevant topic. I recommend to remove the expression “technical-economic” in the title because the reader has the expectation of a feasibility study in this paper, but that is a review paper. My others contributions may be:

SCB (Sugarcane bagasse) - definition needs to be informed.

“Conventional pretreatment methods like dilute acid and steam explosion fail to effectively remove lignin and hydrogen linkages in crystalline cellulose, causing low digestibility and high cellulase loading.“ - Most of the biomass pretreatment in pre-commercial or commercial scale has been using acid or steam explosion, specially if the interest is to achieve high sugar yields. For those kinds of pretreatment, the aim is not to remove lignin as paper industry with kraft process, for instance. Acid or steam explosion pretreatment may only remove soluble acid lignin and they are necessary to increase the digestibility of the biomass fiber for enzymatic hydrolysis step. High content of soluble lignin may cause inhibition for enzyme and fermentation microorganism. So that is a choice of process strategy between high sugar recovery and lignin removal.

Pakistan leads in sugarcane production with 67 million tons annually. If Brazil has higher sugarcane cultivated area than Pakistan, the last one may not be the leader of sugarcane production. It is better to remove that sentence because the sugarcane production information will be appeared later in the text.

Lignin is a major constituent, accounting for 60%. It is not true, the highest component is cellulose.

Fig 1 – Please remove comma before empty in expression empty fruit brunch.

“Pre-processing schemes reduce biomass recalcitrance and recover the most carbohydrates while requiring low investment and operational expenditure”. Pre-processing schemes may have high operational cost, mainly if it includes biomass milling and drying.

FA produced 45.6% XOS (Xylo-oligossacharides) – It is important to define the abbreviation even with a table of abbreviation, because it is only in the end of the paper. So at the first time of that abbreviation, it is a good idea to explain that for the reader.