Response to the Reviewers comments

We are very thankful to you for your time and valuable suggestions on manuscript. We appreciate the important comments and we are glad to respond to the comments highlighted by you.

The response to the point of comments are given below:

In this version, the authors revised the manuscript, considering only a few of my questions and doubts. As in the previous version, the authors repeated some avoidable errors (citations, use of incorrect expressions such as “microflora”, references to not used methods (Gompertz), among others).

In the following section I am presenting some more that were not improved as suggested.

Response: Thank you for valuable comments. We have carefully checked all manuscript and tried to improve the issues.

Introduction

Q1: Line 49- The citation is not correctly introduced in the text. Please avoid this kind of errors. The authors should be attentive when writing manuscripts and correcting them.

Response: We have corrected it according to your kind comment and carefully checked and corrected the citation for the entire manuscript. (Line 50)

Q2: In line 54- The authors should improve the Introduction with results obtained with some more fruits such as “Rocha pear” as suggested in the previous revision.

Response: We have improved the introduction by adding more fruits such as “mangoes, rocha pear, and apples” related to decontamination using AEW as you kind suggested (Lines 50 to 58)

“David Santo et al. tested the antibacterial activity of AEW in the inhibition of *Escherichia coli* and *Cronobacter sakazakii* on fresh-cut mangoes, the results showed that AEW resulted in declining of *E. coli* (1.96 log CFU/g) and *C. sakazakii* (1.76 log CFU/g) populations [15]. Since fresh-cut fruits were a suitable substrate for the survival and growth of foodborne pathogens, the effect of AEW on foodborne bacteria population of fresh-cut fruits were detected though several studies, such as *E. coli*, *Salmonella enterica* and *Listeria* spp inoculated on ‘Rocha’ fresh-cut pears decreases values of 0.53–1.1 log CFU/g were achieved by EW (100 mg/L of free chlorine) washings [16]. Besides, AEW at 50 and 100 mg/L of free chlorine were used to treatment apple slices inoculated with *E. coli*, *Listeria innocua* or *Salmonella choleraesuis* and significantly decreased the populations of pathogen, when compared to that of sodium hypochlorite solution and distilled water [17].”

Reference:


Q3:  Line 74- Calcium in capitals?

Response: We corrected it and carefully checked and corrected this kind of errors in the entire manuscript. (Line 78)
**Material and methods**

**Q4:** The authors should substitute the word “microflora” by “microbiota” in the entire manuscript, as suggested before. Microflora refers to plant origin microorganisms and bacteria do not belong to the Kingdom Plant.

**Response:** We substituted the word “microflora” by “microbiota” in the entire manuscript as you suggested.

**Q5:** Line 97- The authors should clearly describe the equipment, how it is constructed and their main parts. Saying “self-developed” is not enough nor adequate for a scientific article.

**Response:** We have tried to describe the construction of the electrolyzed water generator. (Line 99-100)

**Q6:** Line 125- pay attention to the punctuation. Avoidable error. Correct in the entire manuscript.

**Response:** Thank you so much for the comment. We carefully checked and corrected the punctuation in the entire manuscript.

**Q7:** Line 128- The description of the methods used to count yeast and mold and E. coli and coliforms is still not correct.

**Response:** We corrected it in the text according the comments.

Dichloran Rose Bengal Chloramphenicol (DRBC Difco) agar were used to enumerate the yeast and mold and petri film (Difco) were used to enumerate the total coliforms, respectively. (Line 134, 138)

**Q8:** Line 137- Although the authors say in their revision that they have erased the “Gompertz model” from the manuscript, the expression was written in line 137.

**Response:** We corrected this sentence

“The growth date of TAB, yeast and mold, and total coliforms during storage were monitored.”(Line 148)

**Results and Discussion**

**Q9:** Regarding the suggested improvement of the discussion, the authors did not present an explanation why the microbial reductions they obtained in the fruits tested are higher than the ones obtained in minimally processed fruits, as suggested in the revision letter sent to the authors. The authors did not try to improve their discussion as suggested by me.

**Response:** We would like to thank you for your time and suggestions. We have modified the Results and Discussion according to your kind comments.

We have given the explanation why the microbial reductions they obtained in the fruits tested are higher than the ones obtained in minimally processed fruits in the manuscript.

“This is in agreement with the results presented by other researchers that SAEW, FA, and CaO were high effective on the bacterial reduction as chemical sanitizers [18, 24, 29].” (Line 220-221)
“The results presented indicate that FA, SAEW can inhibit the growth of TAB on the surface of apple, mandarin, and tomato during storage at 4 °C.” (Line268)

“The higher reduction of coliform populations on the surface of mandarin may be explained by the fact that food surface properties such as hydrophobicity, electric charge and roughness may influence the adhesion of microbial [16]. (Line 242-244)

We have improved the discussion of the results comparing the microbial reductions they obtained with the microbial reductions described in other articles as your kind comments.

“The difference between two results may be explained by the instability of SAEW when exposed to air and light which may influence its effective on the bacterial reduction [14].” (Line 233-234)

“The results is in agreement with Daniel Rico et al. which the panelist considered acceptable all the lettuce samples treated with EW (12, 60, 120 mg/L of free chlorine) during 7days storage [37].”(Line 324-326)

“Several studies reported that EW did not affect the quality parameters of fresh production. In a study conducted by Thi-Van Nguyen et al. EW (20, 60 mg/L of free chlorine) was effective as a disinfectant for fresh-cut baby spinach, and remained above acceptable levels over 13 days of storage at 4 °C [39].”(Line 326-329)

“The results described in this study are different to previous research regarding reductions of E. coli on fruit. Danyluk et al. [40] reported that 200 ppm free chlorine wetting stem scar of grapefruit resulted in 4.93 log CFU/ grapefruit reductions of E.coli on the surface of grapefruit. The higher reduction of E.coli may be explained by that higher available free chlorine concentration of SAEW used in their study. Santo et al. [15]” (line 344-348)

Reference:


Q10: Fig.4 and 5- In my opinion, using the techniques described in material and methods the detection limit for yeast and fungi is not 1 CFU/g. What was the volume inoculated and what was the countable dilution? They should correspond the counts of microorganisms inferior to the detection limit to 1 (loc CFU/g) and not 0.

Response:
We have revised this part in the text according to the comments.

“1mL of sample suspension containing natural microbiota were mixed with Tryptone Soy agar (TSA Difco) and poured into plate to enumerate the total aerobic bacteria (TAB). Dichloran Rose Bengal Chloramphenicol (DRBC Difco) agar were used to enumerate the yeast and mold. Then 1mL of sample suspension were 10-fold diluted with 0.1% buffered peptone water (BPW Difco). Population of cell in each culture was confirmed by plating 0.1 mL serial dilution on the agar plates and incubating at 37°C for 24 h. Population of total coliforms was confirmed by plating 1 mL serial dilution on the petri film. Colonies were enumerated and expressed as log CFU/fruit, and the detection limit for microbiological counts is 1 log CFU/fruit.”(Line 133-140)

**Q11:** Fig. 3, 4 and 5 we correspond the counts of microorganisms inferior to the detection limit to 1 (log CFU/fruit).

**Response:** We have corrected the Fig. 3, 4 and 5. Correspond the counts of microorganisms inferior to the detection limit to 1 (log CFU/fruit).

**Q12:** References

The authors should verify the references as some mistakes are found for example reference 15 is equal to reference 38.

**Response:** Thank you so much for valuable comments. We deleted the repeated reference 38 in the citation part, and corrected the number in the text.