



**SDI Review Form 1.6**

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| Journal Name:            | <a href="#">Journal of Experimental Agriculture International</a>         |
| Manuscript Number:       | Ms_JEAI_44059                                                             |
| Title of the Manuscript: | Postharvest quality of banana 'Prata Anã' treated with microalgae coating |
| Type of the Article      | Original Research Article                                                 |

**General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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**PART 1: Review Comments**

|                                     | Reviewer's comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <b>Compulsory</b> REVISION comments | <p>General comments</p> <p>It is very badly written in English in such a manner that it is difficult to understand what the authors want to say. I tried to highlight the points of the 1<sup>st</sup> page needing improvement, but the whole ms needs overhauling in English.</p> <p>There is no statistical analysis in any figure to show any significant differences between means at each time period or between time periods. So all results wording are not backed by the presentation of the data. I believe that the regression lines do not help in the data presentation at all. And there are ups and downs in acidity and soluble sugars unexplainable.</p> <p>The conclusions are not backed from the results, thus are, at least, questionable.</p> <p>Specific comments</p> <p>In Table 1: the green fruit turning yellow over the time of ripening is best followed by the parameter a* and not by C* or hue angle. This is shown in L125-126, where nothing changed of C* and hue angle! So the bananas did not become yellow during ripening?</p> <p>L165-169 the 5% mass loss is considered already externally obvious, thus fruit quality loss is macroscopically evident. At day 8 the two treatments had already &gt;10% mass loss, thus were unsalable. Only Chlorella coated bananas had a bit lower than 8%, which is also high. Why did you mention that coatings improved shelf life to 8 days? In none of the figures there is statistical analysis so someone can see the differences between the means at each time interval. It is unacceptable. Also, the use of regression lines makes little sense in these data as the values could just be connected with lines and something (LSD, SE) could be used per time period or per mean value, respectively.</p> <p>Fig. 4 The ups and downs in acidity mean minor changes or huge variability in the replicates (which is not shown by some means, as I mentioned above). It may not be required in the manuscript and some wording could do the work. Most probably you have some mistake in acidity values or calculations. I believe acidity values cannot increase during ripening (and to such an extent!) of climacteric fruit, but the pH values also increased. It is the weirdest thing I have seen during fruit ripening!</p> <p>Fig 5B is wrong, you have no increase; you actually have ups and downs due to unstable acidity.</p> <p>L237-238 this is weird also. You have soluble solids above 20% and soluble sugars at the end at up to 9% and you had lost 20% of the mass. How did you find that 85-90% of soluble solids are sugars? Here they are always less than 45%.</p> | <p>All manuscript as suggested was revised in English. A summary of ANAVA summary in the manuscript for a better understanding of the statistics used has also been added. The experimental design was completely randomized, with plots subdivided over time. In the statistic, for the coatings factor we applied tukey test, in the time factor regression was applied, and when significant in the recoating and time interaction we used regression. And in other studies already developed, this statistical model was sufficient to support the results obtained.</p> <p>Table 1 demonstrates the results of the fruits on the day of the experiment setup, is a characterization of how the fruits were in the harvest, and they do not represent the storage used in the experiment.</p> <p>Regarding the evolution in coloration, I believe that the C * and hue angle variables are good indicators of fruit ripeness. For the hue angle we can observe the evolution of green to yellow color clearly, due to the reduction of this variable, which can be observed in the graph (Fig. 1C). But I understand the point of view, there are some researchers who prefer the parameters a * and b *.</p> <p>Because they do. According to Passos et al. (2016) concluded that 10% fresh weight loss is an acceptable value for Silver banana and that all bananas remained turgid by the sixth day of storage with an average value of 9.94%. And below, I sent you a photo demonstrating the visual appearance of the bananas covered at 6 days of storage. Which kept the color green with traces of yellow, demonstrating the promising signs of maturity. From left to right we have a sample of the treatments: <i>Scenedesmus</i> sp .; <i>Spirulina platensis</i> and <i>Chlorella</i> sp.</p> |



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|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  <p>I understand the amazement with the titratable acidity, but this behavior has already been observed in previous studies with other climateric fruits covered with microalgae, in a way the coatings can maintain the organic acids present in the fruits, in other studies this is also noticed in the conservation of vitamin C, which is also associated with loss of mass which also causes it to concentrate some of the acids in the fruits.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Minor</b> REVISION comments | <p>L103-104 they must not be micro liters, most probably you are talking about mL!<br/>Table 1 and L90: you say you measured firmness of the peel and then you say you measured the firmness of the pulp. What is correct?<br/>Fig 1 graphs A and B have only one line. What is it? The rest could have narrower Y axis, so differences can be seen, if any.<br/>L178 you keep talking about pulp firmness. What did you actually measure?<br/>L234-235 you mean soluble sugars in Fig. 5C, or change to 5A.</p> | <p>In relation to soluble solids I agree that oscillations occur due to the acidity behavior, but if you look at the graph along the storage, there is an increase in the soluble solids of the bananas, so that in the end the bananas can reach acceptable soluble solids for the cultivar studied. In relation to sugars, we use the methodology of Yemn and Wills, 1954, "antrone methodology" with modifications so that we can obtain the data in order to consume less amount of reagent, but we use microliters to carry out the analysis. If you wish we could contact you after reviewing the work and talk more about how we do this analysis so that you can better understand why you can only find 45% of total soluble sugars in your samples, I am happy to say that I am readily available to help.</p> <p>Table 1 and L90; L178 and L234-235, were English errors that were corrected during the revision of the manuscript. I think you better understand now.</p> <p>Figure 1A and B show the graphs that were significant in illoated effects, that</p> |



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|                                  |  | <p>is why it only has one row, since they show the significant results only in the time factor.</p> <p>Although the reviewer has said that the graphs do not show significance but they have yes. In each equation they present asterisks for significant and ns for non-significant. And the graphs do not have linked points, but rather the dispersion and tendency that the treatments presented during the storage period, and the graphs with more than one line have the significant result of the interaction as can be seen in the ANAVA summary, and the single line the isolated effect over the storage time.</p> <p>Thank you for the valuable contributions in our manuscript and I hope you have been able to explain all the questions. Again, I am ready for any other questions that may arise. Thanks!</p> |
| <u>Optional/General</u> comments |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |