**Response to the Reviewer comments**

My general opinion about this manuscript is that it contains interesting parts of information but these are scattered - not properly presented. This could confuse reader. I would suggest the use of **subchapters,** the reduction of useless and repeated information.

Response:

Subchapters have been added (3.1.1. to 3.1.5. and 3.2.1. to 3.2.4.)

Some more comments, questions and proposals can be found below:

- English language needs improvement. I would suggest editing by a native English speaker.

Response:

We hope that we have improved writting in certain sections of the manuscript.

Why did the authors use non treated wood particles after conditioning to MC=15%? Are the results comparable to those for the other 2 groups (10 and 20%)?

We are aware that the moisture content of wood raw material (wood particles) affects various phenomena during pelleting process and finally the physical and mechanical properties of pellets. Moisture affects the friction characteristics of raw material, as well as the glass transition temperature. Hence, each pelleting process requires the optimal moisture content of wood raw material, and this optimal moisture content does depend on wood species (amongst other factors). Since the chemical composition of wood raw material have been change by the application of treatment, we have assumed that the optimal moisture content would be changed too. For that reason we have opted for lower and higher moisture content of treated particles in comparison to non-treated ones. In that way we could evaluate in which direction the moisture content should be adjusted in order to achieve desired physical and mechanical characteristics of the produced pellets, also having in mind possible future endeavors in this field.

Conclusions chapter is large, sometimes confusing and sometimes not supported by the findings of this research. For example: a) line 387: the authors draw this conclusion without any assesment of transportation and storage costs, b) lines 394-396: this conclusion is not clear.

Response:

1. The increased bulk density increases the mass of the pellets stored per one unite of volume. Hence, our conlcusion that "The higher bulk density of pellets made from treated particles... also reduces the transportation and storage costs." was just made upon this assumption that the higher mass per volume, will result in lower storage or transportation costs.
2. This part of conclusions is revised.

The apparatus used for the production of pellets is not shown. I think that a picture and/or a related drawing could be helpful. Furthermore, the picture of the produced pellets seems not important for this paper so it could be removed.

Response:

We have added the new figure 1 presenting the pellet press. However, we kept the figure that includes the photographs of different pellets, since it shows their unique idividual appearance.

Lines 173-175: In my opinion, this method is scientifically weak since (due to many factors) the sum of the constituents that were determined could never be 100%. In my opinion this is an important weakness of the method which could lead to wrong conclusions. It is important to determine hemicellulose content directly using known methods. Otherwise the related results and related conclusions should not be inclused in the manuscript.

Response:

We have renamed these constituents - instead of "hemicelluloses", we used the therm "others" (suplement to 100%).

Lines 243-247: Please provide related references that support the drawing of this conclusion.
Why was hardness determined? What is the practical usefulness for the pellet industry or the users of pellet? Which conclusions were drawn related to hardness determination?

Response:

243-247: - This part is now revised, and the references are added. This section has the new subtitle - 3.1.4. *Equilibrium moisture content.*

We have decided to remove the part that concerns the hardness, since we also ask ourselves the same questions.

Finally,

We are very grateful for the both constructive and instructive comments and suggestions.

With best wishes for the New Year,

Sincerely,

Authors