

*Bridging Training and Research
for Industry and the Wider Community*

6th International ISEKI-Food Conference



*“Sustainable Development Goals in Food Systems:
Challenges and Opportunities for the Future”*

BOOK OF ABSTRACTS

23 – 25 June, 2021

ONLINE

6th International ISEKI-Food Conference

Sustainable Development Goals in Food Systems: Challenges and Opportunities for the Future

BOOK OF ABSTRACTS

Editors

Margarida Vieira, Paola Pittia, Cristina L.M. Silva,
Florence Dubois-Brissonnet, Rui Costa
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#233: Effect on the quality of chestnuts (*Castanea sativa* Miller) manually and mechanically harvested during industrial cold storage

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The European chestnut (*Castanea sativa* Mill.) is a typical seasonal product with high importance in Portugal. Due to the difficulty in finding labour to harvest this fruit, machines have been used that perform the harvesting mechanically. However, during the nut's mechanical collection, small stones or other materials can also be sucked, damaging the nut's surface. These damages may affect the quality of the fruit and possibly lead to the appearance of a more significant number of rotten fruits. Currently, the presence of chestnut rot caused by the fungus *Gnomoniopsis smithogilvyi* (*Gnomoniaceae*, *Diaporthales*) has been reported.

This study aimed to evaluate the effect on the quality of chestnuts manually and mechanically harvested during industrial cold storage for three months. Parameters such as the presence of bruises and minor cuts, the number of rotted fruits, loss of weight, total soluble solids (TSS), titratable acidity (TA) and reducing sugars were determined. The mechanical harvesting increased the frequency of bruises and small visible cuts. Moreover, in many fruits, it was observed the removal of the tuft. The number of rotted fruits did not increase along the storage time. During the three months of storage, the weight loss was never more than 10%, but it increased over time. Between the manual and mechanical harvesting, no significant differences in the weight loss, TSS and TA were observed in almost all situations. The reducing sugars were less than 0.65 g glucose / 100 g d.m., being fluctuations observed over time but without a definite trend.

In conclusion, mechanical harvesting caused minor damages to the chestnut surface. Still, in the physicochemical parameters evaluated, there were no significant differences between the two types of harvesting in the majority of the situations.

Keywords

Chestnuts, Impact injuries

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6th International ISEKI-Food Conference

The general aim of the ISEKI-Food conference series is to contribute to the creation of an “open” international forum for researchers, education scientists, technologists and industry representatives, as well as food consumers, to promote constructive dialogue and collaboration on topics relevant to Food Science and Technology, Industry and Education and to present and disseminate the results of the activities developed by the ISEKI-Food network projects.

The topic of the 6th ISEKI-Food Conference was “*Sustainable Development Goals in Food Systems: Challenges and Opportunities for the Future*”. The conference aimed to promote a wide and constructive discussion on the current status and achievements of the SDGs.

www.iseki-food2020.isekiconferences.com

ISEKI Conferences

1st ISEKI-Food Conference, 10 - 12 September, 2008, Porto, Portugal

2nd ISEKI-Food Conference, 31 August - 2 September, 2011, Milan, Italy

3rd ISEKI-Food Conference, 21 - 23 May, 2014, Athens, Greece

4th ISEKI-Food Conference, 6 - 8 July, 2016, Vienna, Austria

5th ISEKI-Food Conference, 3 - 5 July, 2018, Stuttgart, Germany

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