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

Foteini Chrysanthopoulou

ONLINE

2021

All abstracts accepted for presentation in the 6th International ISEKI-Food Conference Book of Abstracts have been *Peer Reviewed* for acceptance by the Scientific Committee members.

Published by:

ISEKI-Food Association, A-1190 Vienna, Muthgasse 18, https://www.iseki-food.net/

e-ISBN 978-989-9023-52-9

DOI https://doi.org/10.34623/9hhy-1y83

ORGANISING INSTITUTION

ISEKI-Food Association (IFA)

IFA is an independent European non-profit organisation, established in 2005 by university institutions, research institutes, companies and associations related to food, coming from all over the world.

Muthgasse 18, 1190 Vienna, Austria

https://www.iseki-food.net

ORGANISING COMMITTEE

Dimitris Tsaltas, Cyprus University of Technology, Cyprus – **Chair**
Margarida Vieira, ISEKI-Food Association, Austria – **Chair**
Rui Costa, Polytechnic Institute of Coimbra, Portugal
Anita Habershuber, ISEKI-Food Association, Austria
Foteini Chrysanthopoulou, ISEKI-Food Association, Austria

SCIENTIFIC COMMITTEE

Paola Pittia, University of Teramo, Italy – **Chair**
Cristina L.M. Silva, Catholic University of Portugal, Portugal – **Chair**
Florence Dubois-Brissonnet, AgroParisTech, France – **Chair**

Victor Acha, LaSalle Beauvais, France
George Botsaris, Cyprus University of Technology, Cyprus
Mladen Brnčić, University of Zagreb, Croatia
Rui Costa, Polytechnic Institute of Coimbra, Portugal
Rui Cruz, University of Algarve, Portugal
Marco Dalla Rosa, University of Bologna, Italy
Stephan Drusch, Berlin Technical University, Germany
Elisabeth Dumoulin, AgroParisTech (retired), France
Ferruh Erdogdu, University of Ankara, Turkey
Jesus Maria Frias Celayeta, Dublin Institute of Technology, Ireland
Charis Galanakis, Galanakis Laboratories, Greece
Velitchka Gotcheva, University of Food Technologies, Bulgaria
Vlasios Goulas, Cyprus University of Technology, Cyprus
Ralf Greiner, Max-Rubner-Institut, Germany
Gustavo Gutierrez, ENCB-IPN, Mexico
Henry Jaeger, BOKU, Austria
Afam I O Jideani, University of Venda, South Africa
Saverio Mannino, University of Milan (retired), Italy
Francesco Marra, University of Salerno, Italy
Olga Martin-Belloso, University of Lleida, Spain
Anna McElhatton, University of Malta, Malta
Brian McKenna, EEFoST, Ireland
Song Miao, Teagasc Food research Centre, Ireland
Peter Mitchell, University of Ulster, UK
Joachim Müller, University of Hohenheim, Germany
Vasso Oreopoulou, NTUA, Greece
Photis Papademas, Cyprus University of Technology, Cyprus
Maria Papageorgiou, International Hellenic University, Greece
Vieno Piironen, University of Helsinki, Finland
Vish Prakash, United Nations Mysore University, India
Cristina Ratti, Université Laval, Canada
Daniel Ribotta, University of Cordoba, Argentina

Sam Saguy, Hebrew University of Jerusalem, Israel
Tanaboon Sajjaanantakul, Kasertsart University, Thailand
Gerhard Schleining, ISEKI-Food Association, Austria
Gunnar Sigge, Stellenbosch University, South Africa
Paul Singh, University of California, USA
Paulo Sobral, University of Sao Paolo, Brazil
Petros Taoukis, National Technical University of Athens, Greece
Dimitris Tsaltas, Cyprus University of Technology, Cyprus
Rimantas Venskutonis, Kaunas University of Technology, Lithuania
Antonio Vicente, University of Minho, Portugal
Margarida Vieira, University of Algarve, Portugal

Scientific committee is listed in alphabetical order.

STAKEHOLDER ADVISORY COMMITTEE

Marco Dalla Rosa, University of Bologna, Italy - Chair

#233: Effect on the quality of chestnuts (Castanea sativa Miller) manually and mechanically harvested during industrial cold storage

Filipe LEMA[1], Arlindo ALMEIDA[1], António BORGES[2], **Elsa RAMALHOSA**[1]

[1]Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Bragança, Portugal

[2]Sortegel - Produtos Congelados, S.A., Sortes, Portugal

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 (TTS), 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

Acknowledgements

FCT (Portugal) [CIMO: UID/AGR/00690/2019] and PDR2020 [ValorCast Project - PDR2020-101-032034].

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
6th ISEKI-Food Conference, 23 - 25 June, 2021, Online

e-ISBN: 978-989-9023-52-9
DOI: https://doi.org/10.34623/9hhy-1y83

ISEKI Food Association