UNIVERSITY OF PITESTI
FACULTY OF SCIENCES,
PHYSICAL EDUCATION AND INFORMATICS



International Symposium
Current Trends in Natural Sciences
Book of Abstracts

May 19-21, 2022

International partners:

Mansoura University, Egypt

Atatürk University, Erzurum, Turkey

Zaporizhzhia National University, Zaporizhzhia, Ukraine

Organizing Committee:

President of the Organizing Committee:
Monica POPESCU – University of Pitesti, Romania

Organizing Committee Members (alphabetical order):
Daniela BĂRBUCEANU - University of Pitesti, Romania
Olena BOIKA - Zaporizhzhia National University, Zaporizhzhia, Ukraine
Zeynel DALKILIÇ - Adnan Menderes University, Aydin, Turkey
Ionica DELIU – University of Pitesti, Romania
Codruța DOBRESCU – University of Pitesti, Romania
Oana DRĂGHICEANU – University of Pitesti, Romania
Zeki GÖKALP - Erciyes University, Kayseri, Turkey
Monica NEBLEA – University of Pitesti, Romania
Gheorghe Cristian POPESCU – University of Pitesti, Romania
Nicoleta RĂBAN-MOTOUNU – University of Pitesti, Romania
Ion SCURTU -The Academy for Agricultural and Forestry Sciences – Horticulture Section
Yasser SHABANA - Mansoura University, Egypt
Liliana Cristina SOARE – University of Pitesti, Romania
Anca Nicoleta ŞUȚAN – University of Pitesti, Romania
Telat YANIK – Agri Ibrahim Cecen University, Turkey
Alina Mihaela TRUȚĂ - University of Pitesti, Romania

Scientific Committee:
(alphabetical order)

Muhammed ATAMANALP - Atatürk University, Erzurum, Turkey
Daniela BARBUCEANU - University of Pitesti, Romania
Olena BOIKA - Zaporizhzhia National University, Zaporizhzhia, Ukraine
Monica BOSCAIU - Polytechnical University of Valencia, Spain
Gheorghita BRINZEA - University of Pitesti, Romania
Vincenzo CANDIDO - University of Basilicata, Italy
Denisa CONETE - University of Pitesti, Romania
Ionica DELIU - University of Pitesti, Romania
Gaetano DISTEFANO - University of Catania, Italy
Zeynel DALKILIÇ - Adnan Menderes University, Aydin, Turkey
Codruta Mihaela DOBRESCU - University of Pitesti, Romania
Leonard Magdalin DOROBAT - University of Pitesti, Romania
Mohamed Abdalla ELAIDEY - Mansoura University, Egipt
Irina FIERASCU - The National Institute for Research & Development in Chemistry and Petrochemistry, ICECHIM, Bucharest, Romania
Radu Claudiu FIERASCU - The National Institute for Research & Development in Chemistry and Petrochemistry, ICECHIM, Bucharest, Romania
Zeki GÖKALP - Erciyes University, Kayseri, Turkey
Gonca GUNVER DALKILIÇ - Adnan Menderes University, Aydin, Turkey
Nicoleta IANOVICI - West University of Timisoara, Romania
Kaspars KAMPUSS - Latvia University of Agriculture, Jelgava, Latvia
Sedat KARAMAN - Gaziosmanpasa University, Tokat, Turkey
Mihail George MAN - University of Pitesti, Romania
Gabriel Alexandru MARINESCU - University of Pitesti, Romania
Florina Cristina MIHAESCU - University of Pitesti, Romania
Monica Angela NEBLEA - University of Pitesti, Romania
Magdalena NEGRU - University of Pitesti, Romania

Ivo ONDRASEK - Mendel University of Brno, Czech Republic
Alina PAUNESCU - University of Pitesti, Romania
Michele PERNIOLA - University of Basilicata, Italy
Marian PETRE - University of Pitesti, Romania
Cristina Maria PONEPAL - University of Pitesti, Romania
Aurel POPESCU - University of Pitesti, Romania
Florentina Carmen POPESCU - National Research and Development Institute for Biotechnology in Horticulture Stefanesti Arges, Romania, Romania
Cristian Gheorghe POPESCU - University of Pitesti, Romania
Monica POPESCU - University of Pitesti, Romania
Nicoleta RABAN – MOTOUNU - University of Pitesti, Romania
Tamer RIZAOGLU - Kahramanmaras Sutcu Imam University, Turkey
Ion SCURTU - The Academy for Agricultural and Forestry Sciences – Horticulture Section, Romania
Yasser SHABANA - Mansoura University, Egypt
Liliana Cristina SOARE - University of Pitesti, Romania
Daniela Ileana STANCU - Arges County Museum, Romania
Anca Nicoleta SUTAN - University of Pitesti, Romania
Yanik TELAT - Agri Ibrahim Cecen University, Turkey
Asea TIMUS - The State Agrarian University of Moldova, Republic of Moldova
Alina Mihaela TRUTA - University of Pitesti, Romania
Robert ULEWICZ – Czestochowa University of Technology, Czestochowa, Poland
Aydin UZUN - Erciyes University, Turkey

(P-36) ENERGY ASPECTS AND EFFECTIVE MOISTURE DIFFUSIVITY OF RED PEPPER: CHANGE IN CULTIVARS AND DRYING METHODS

Necati ÇETİN [1,*], Mahmut KAPLAN [2], Hasan PINAR [3], Kevser KARAMAN [4], Beyza ÇİFTÇİ [5]

[1] Department of Biosystems Engineering, Faculty of Agriculture, Erciyes University, Kayseri, Turkey
[2] Department of Field Crops, Faculty of Agriculture, Erciyes University, Kayseri, Turkey
[3] Department of Horticulture, Faculty of Agriculture, Erciyes University, Kayseri, Turkey
[4] Department of Agricultural Biotechnology, Faculty of Agriculture, Erciyes University, Kayseri, Turkey
* Corresponding author: necaticetin@erciyes.edu.tr

The drying methods have been performed successfully for many years in product processing and preservation. The moisture content of the products has been reduced to desirable levels with the use of this method. In the present study, the effect of different drying methods on specific energy consumption, specific moisture extraction ratio, effective moisture diffusivity, energy, and thermal efficiency of two red pepper cultivars (Pinar and Bozok) were investigated. Red peppers were dried open-sun, shade, greenhouse, microwave (300 W and 600 W), air-convective (60 °C and 80 ºC), and freeze drying. According to findings the shortest and longest durations were recorded in freeze and microwave (600 W) drying respectively. The greatest specific energy consumption values were obtained from freeze drying. Both 300 W and 600 W had the highest specific moisture extraction ratio, energy, and thermal efficiency values. Generally, the greatest effective moisture diffusivity values were determined in microwave drying, while the lowest ones were determined in natural conditions such as open-sun, shade, and greenhouse drying.