ABSTRACT PROCEEDING BOOK OF ICAFOF CONFERENCE

Editors

Asst. Prof. Dr. M. Cüneyt BAĞDATLI
Asst. Prof. Dr. Erkan KALIPCI

Cappadocia- Nevşehir/Turkey – 2017
Dear Colleagues

Welcome to the official site of International Conference on Agriculture, Forest, Food Sciences and Technologies (ICAFOF 2017 Cappadocia / Turkey). This three-day conference will be held in DoubleTree by Hilton Hotel Avanos – Cappadocia, Nevsehir, Turkey during May 15 - 17, 2017. The official presentation language of the ICAFOF is English or Turkish. But the abstracts should only be written in English in Microsoft Word. The conference will be organized by University of Nevsehir Haci Bektas Veli. The ICAFOF-Cappadocia 2017 aims at presenting current researches being carried out in the areas of Agriculture, Forest and Food for scientists, scholars, engineers and students from the universities, technologists, entrepreneurs and policy makers all around the World. Thus, The ICAFOF - Cappadocia provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration. We hope that you can join us in the ICAFOF - Cappadocia 2017 with new insights. We look forward to welcoming you to Cappadocia, where is a fascinating nature wonder in Turkey.

The Chairmen of ICAFOF Conference

Asst. Prof. Dr. M. Cüneyt BAĞDATLI

Asst. Prof. Dr. Erkan KALIPCI
Science Committee

Prof. Dr. Mazhar BAĞLI (Rector, Honorable Chairman)  
University of Nevşehir Hacı Bektaş Veli

Asst. Prof. Dr. M. Cüneyt BAĞDATLI, (Conference Chairman)  
University of Nevşehir Hacı Bektaş Veli, Department of Biosystem Engineering, Turkey

Asst. Prof. Dr. Erkan KALIPCI, (Conference Chairman)  
University of Nevşehir Hacı Bektaş Veli, Department of Environmental Engineering, Turkey

Agriculture Scientific Committee

Prof. Dr. Eleni TSANTILI, Agricultural University of Athens, Department of Crop Science, Greece

Prof. Dr. Joseph HELLA, Sokoine University of Agriculture, Department of Agricultural Economics and Agribusiness, Tanzania

Prof. Dr. Ahmet Nedim YÜKSEL, Namık Kemal University, Faculty of Agriculture, Department of Biosystem Engineering, Turkey

Prof. Dr. Pradeep SHRIVASTA, Barkatullah University, Applied Aquaculture, India

Prof. Dr. Selçuk ALBUT, Namık Kemal University, Faculty of Agriculture, Department of Biosystem Engineering, Turkey

Prof. D. Andrey FILÎNKO, Agricultural Academy, Russia

Prof. Dr. M. Ali TOKGÖZ, Ankara University, Faculty of Agriculture, Department of Farm Structure and Irrigation, Turkey

Prof. Dr. Alessandro PICCOLO, University of Naples Federico II, Agricultural Chemistry, Italy

Prof. Dr. Fatih SELENAY, Ankara University, Faculty of Agriculture, Department of Farm Structure and Irrigation, Turkey

Assoc. Prof. Dr. Oktay ERDOĞAN, University of Nevşehir Hacı Bektaş Veli, Faculty of Engineering and Architecture, Department of Biosystem Engineering, Turkey

Assoc. Prof. Dr. Hamed Doulati BANEH, Agricultural Research Center, Department of Seed and Plant Improvement, Iran

Assoc. Prof. Dr. Vilda GRYBAUSKIENE (Vice Dean), Lithuanian University, Faculty of Agriculture, Lithuanian

Assoc. Prof. Dr. Serkan ŞAHİNKA YA, University of Nevşehir Hacı Bektaş Veli, Faculty of Engineering and Architecture, Department of Environmental Engineering, Turkey
Asst. Prof. Dr. Korkmaz BELLİTÜRK, Namik Kemal University, Faculty of Agriculture, Department of Soil Science and Plant Nutrition, Turkey
Asst. Prof. Dr. Osman GÖKDOĞAN, University of Nevşehir Haci Bektaş Veli, Faculty of Engineering and Architecture, Department of Biosystem Engineering, Turkey
Asst. Prof. Dr. M. Fırat BARAN, Adiyaman University, Faculty of Technology, Department of Energy Engineering, Turkey
Dr. Tugay AYASAN, Eastern Mediterranean Agricultural Research Institute, Turkey
Dr. Biljana KIPROVSKI, Institute of Field and Vegetable Crops, Serbia
Dr. Mina SHIDFAR, Urmia University, Faculty of Agriculture, Iran
Hafiz Qaisar YASIN, Strategic Planning and Policy Analyst, Deputy Director, Department of Punjab Agriculture, Pakistan
Jiban Shrestha, Nepal Agricultural Research Council, Nepal

Forest Scientific Committee

Prof. Dr. Azize TOPER KAYGIN (Vice Rector) Bartın University, Forestry Faculty, Department of Forest Engineering, Turkey
Prof. Dr. Satyawan PAK, (Faculty Dean), Gadjah Mada University, Faculty of Forestry, Indonesia
Prof. Dr. Ravi SHARMA, Agra University, Botany Agra College, India
Prof. Dr. Süha BERBEROĞLU, Çukurova University, Faculty of Agriculture, Department of Landscape Architecture, Turkey
Assoc. Prof. Dr. Sharon Jean PHILIPPE, University of Tennessee, Department of Urban Forestry, United States
Assoc. Prof. Dr. Halil Barış Özel, Bartın University, Faculty of Forestry, Turkey
Assoc. Prof. Dr. Hüseyin Barış TECİMEN, Istanbul University, Faculty of Forestry, Department of Soil Science and Ecology, Turkey
Assoc. Prof. Dr. Mirela Mariana NICULESCU, (Vice-Dean), University of Craiova, Faculty of Agronomy, Department of Botany, Romanian
Assoc. Prof. Dr. Bilgin İÇEL, Suleyman Demirel University, Faculty of Forest, Department of Forest Industry Engineering, Turkey
Assoc. Prof. Dr. Liviu OLARU, University of Craiova, Faculty of Agronomy, Department of Agrotechnica, Romanian
Assoc. Prof. Dr. Rosculete ELENA, University of Craiova, Faculty of Agriculture, Agrochemistry Department, Romanian
Asst. Prof. Dr. Cenk DÖNMEZ, Çukurova University, Faculty of Agriculture, Department of Landscape Architecture, Turkey
Dr. Sarita Gajbhiye MESHRAM, Indian Institute of Technology, India
Mag. Neşen Ertuğrul, M.A. Alpen-Adria University, Ecology Institute, Austria

Food Scientific Committee

Prof. Dr. Alev BAYINDIRLI, University of Middle East Technical, Faculty of Engineering, Department of Food Engineering, Turkey
Prof. Dr. Kokini Jozef L. Purdue University, College of Agriculture, Department of Food Science, United States
Prof. Dr. Rajka BOZANIC, Zagreb University, Faculty of Food Technology and Biotechnology Department of Food Processing, Serbia
Prof. Dr. Serkan SELLI, Çukurova University, Faculty of Agriculture, Department of Food Engineering, Turkey
Prof. Dr. Mariam ELDEEB, Poultry Nutrition, Assiut University, Egypt
Prof. Dr. Apdurrahman AKTÜMSEK, Selcuk University, Department of Biology, Turkey
Assoc. Prof. Dr. David Rodriguez LAZORO, Universitat de Girona, Biotechnology Department, Spain
Assoc. Prof. Dr. Binod KYADAV, Institute of Crop Processing Technology, India
Assoc. Prof. Dr. Gökşel Özmen GÜLER, Necmettin Erbakan University, Department of Biological Education, Turkey
Assoc. Prof. Dr. Mohsen ESMAILLI, Urmia University, Department of Food Process Engineering, Iran
Assoc. Prof. Dr. Jordi SALDO PERIAGO, Universitat Autonoma de Barcelona, Department of Animal and Food Science, Spain
Assoc. Prof. Dr. Hülya GÜL, University of Suleyman Demirel, Faculty of Engineering, Department of Food Engineering, Turkey
Assoc. Prof. Dr. Fayaj PATHAN, MIT College of Food Technology, India
Assoc. Prof. Dr. Haşim KELEBEK, Adana Science and Technology University, Faculty of Engineering and Natural Sciences, Turkey
Asst. Prof. Dr. Kemal ŞEN, University of Nevşehir Hacı Bektaş Veli, Faculty of Engineering and Architecture, Department of Food Engineering, Turkey
Asst. Prof. Dr. Cem Okan ÖZER, University of Nevşehir Hacı Bektaş Veli, Faculty of Engineering and Architecture, Department of Food Engineering, Turkey
Alleviation of Salt-Induced Stress in *Allium cepa* L. by Exogenous Sodium Hypochlorite (NaClO) Treatment

Kürşat ÇAVUŞOĞLU¹*, Fadime DOĞU¹, Dilek ÇAVUŞOĞLU²

¹ The University of Süleyman Demirel, Faculty of Arts and Science, Department of Biology, Isparta/Turkey
² The University of Süleyman Demirel, Atabey Vocational School, Department of Food Processing, Isparta/Turkey

*Corresponding Author: kursatcavusoglu@sdu.edu.tr

Abstract

In this work, the effects of sodium hypochlorite (NaClO) on the seed germination, seedling growth (radicle length, radicle number and fresh weight), mitotic activity and chromosomal aberrations of *Allium cepa* L. germinated under both normal conditions and salt stress were studied. The radicle length, radicle number and fresh weight of the seeds germinated in the medium with NaClO alone reduced as compared with ones of the control seeds germinated in distilled water medium while their germination percentage was statistically the same as ones of the control seeds. In addition, the mitotic index in root tip meristems of *A. cepa* seeds germinated in the medium with NaClO alone demonstrated a decrease according to ones of the control seeds germinated in distilled water medium while their frequency of chromosomal aberrations showed an increase according to ones of the control. On the other hand, salt stress considerably inhibited the seed germination and seedling growth of *A. cepa*. Furthermore, it markedly reduced the mitotic index in root tip meristems of the seeds and increased the number of chromosomal aberrations. Whereas, the detrimental effects of salt on the seed germination, seedling growth, mitotic activity and chromosomal aberrations were dramatically alleviated in varying degrees by NaClO application.

Keywords: Chromosomal abnormality, Germination, Mitotic index, Salinity, Seedling growth, Sodium hypochlorite