



1. Title

Soil Health: Key to Food Security

2. Type

Divisional Symposium

3. Organizer(s) & Convener

Nanthi Bolan

Center for Environmental Risk Assessment and Remediation, University of South Australia,
Building X, University Boulevard, Mawson Lakes 5095, South Australia

Tel: +61 8 83025129

Fax: +61 8 83023057

E-mail: Nanthi.Bolan@unisa.edu.au

Website: <http://www.unisanet.unisa.edu.au/staff/homepage.asp?Name=Nanthi.Bolan>

Ravi Naidu

CRC CARE Pty Ltd, Building X, University of South Australia, Mawson Lakes SA 5095

Tel: +61 (0) 8 8302 5041

Fax: +61 (0) 8 8302 3124

E-mail: Ravi.Naidu@crccare.com

Website: <http://www.CRCCARE.Com>

Andrew Beveridge

CRC CARE Pty Ltd, Building X, University of South Australia, Mawson Lakes SA 5095,
Australia

Tel: +61 (0) 8 8302 3927

Fax: +61 (0) 8 8302 3124

CRC CARE

Mawson Lakes

E-mail: Andrew.Beveridge@crccare.com

Website: <http://www.CRCCARE.Com>

M.B. Kirkham

Department of Agronomy, Kansas State University, 2004 Throckmorton Plant Sciences
Center, Manhattan, KS 66506-5501 USA

Tel: 785-532-0422;

Fax: 785-532-6094

E-mail: mbk@ksu.edu or kirkhammb@gmail.com

Website: <http://www.agronomy.ksu.edu/pages/kirkham>

*** Convener**

Yong Sik Ok,

Director, Korea Biochar Research Center (KBRC), Environmental Remediation and
Restoration Laboratory





Department of Biological Environment, Kangwon National University, 1
Kangwondaehak-gil, Chuncheon 200-701, Korea
Tel: +82-33-250-6443
Lab: +82-33-255-6443, +82-33-242-6443
Fax: +82-33-241-6640
Mobile: 82-10-8951-6242
E-mail: soilok@kangwon.ac.kr
ERR Lab: <http://errlab.kangwon.ac.kr>
KBRC: <http://www.biochar.co.kr>

Jae E Yang
Department of Biological Environment, Kangwon National University, Chuncheon 200-701,
Korea
Tel: +82 33 250 6446
Fax: +82 33 241 6640
E-mail: yangjay@kangwon.ac.kr

Rufus L Chaney
Environmental Management and By-Product Utilization Laboratory, United States
Department of Agriculture
10300 Baltimore Ave, Bldg 007, BARC-West, Beltsville, MD 20705, United States
Tel: +1 301 504 8324
Fax: +1 301 504 5048
E-mail: Rufus.Chaney@ars.usda.gov

Kim Won-II
Department of Agro-Food Safety / Chemical Division, National Academy of Agricultural
Science 126, Suinro, Gwonseongu, Suwon 441-707, Korea
Tel: +82 31 290 0527
Fax: +82 31 290 0506
E-mail: wikim721@korea.kr

Sang Soo Lee
Department of Biological Environment, Kangwon National University,
1 Kangwondaehak-gil, Chuncheon 200-701, Korea
Tel: +82 33 250 7214
E-mail: sslee97@kangwon.ac.kr

4. Rationale

With continued decline in the land area available for cultivation, food security can be achieved only by safeguarding soil health in terms of its physical, biological and chemical fertility. Soil fertility degradation triggered by nutrient removal through plant uptake, erosion and leaching, coupled with low application of nutrients through fertilizers and organic manures/composts is the most important constraint to achieve food security in many countries. Similarly acidification, salinity, erosion and





contamination also contribute to decline in food production. Soil contamination is a major barrier not only to sustain agricultural production but also to produce quality food.

Many countries are introducing 'Soil Health Card' to monitor and manage soil quality to sustain agricultural production. The soil health card evaluates the health or quality of a soil as a function of its biophysical characteristics. The card is a tool to help farmers to monitor and improve soil health based on their own field experience and working knowledge of their soils. The Soil Health Card is one of the initiatives aimed at achieving the targeted agricultural production through informed decision on best management practices.

5. Objectives

The primary aim of this symposium is to examine the nexus between soil quality and global food security. The symposium will focus on various issues related to soil quality such as acidification, salinity, contamination, soil erosion and nutrient depletion that are important in controlling sustainable agricultural production. Major achievements, challenges, limitations and opportunities of soil quality research in relation to achieving food security will be explored. Leading research experts and professionals from industries throughout the world will be brought together to share their knowledge and expertise to assess recent achievements and propose future directions in soil quality research.

6. Description

The symposium will give us the opportunity for critical and in-depth discussion on the sustainable management of soil and water resources. Innovative ideas with experts in soil quality research will be shared extensively, and new strategies for enhancing land-based food production will be outlined. The symposium will also provide an opportunity to initiate the academic network amongst early careers scientists, senior international soil scientists and professionals from agricultural industries. As soil scientists we have a major role in educating the general community the nexus between soil quality and food production, thereby helping the farming community to realize the task of food security in every part of the world.

