SHRD

SOCIETY FOR HORTICULTURAL RESEARCH DEVELOPMENT

Indian Horticulture Summit – 2020

Mitigating Climatic Changes and Doubling Farmers' Income through Diversification

14-16 February 2020

Book of Abstracts

Organized by

Society for Horticultural Research and Development, Ghaziabad, U.P.

In collaboration with

Mahatma Gandhi Chitrakoot Gramodya Vishwavidyalaya, Chitrakoot, M.P.
Gautam Kalloo Research and Development Foundation, Varanasi, U.P.
Sewa International, Bharat, New Delhi

Co-sponsors

भाकृअनुप ICAR

NABARD

iNSERB DIA

Stronger root for stronger growth
Gautam Kalloo Research and Development Foundation

BAYER

sewa International

Indian Horticulture Summit – 2020

Mitigating Climatic Changes and Doubling Farmers' Income through Diversification

14-16 February 2020

Book of Abstracts

Organized by

Society for Horticultural Research and Development
Ghaziabad (Uttar Pradesh), India

In collaboration with

Mahatma Gandhi Chitrakoot Gramodya Vishwavidyalaya, Chitrakoot, Madhya Pradesh
Gautam Kalloo Research and Development Foundation, Varanasi, Uttar Pradesh
Sewa International, Bharat, New Delhi

Compiled and Edited by

Balraj Singh, Som Dutt, B.S. Tomar, A.K. Srivastava, J.K. Ranjan, P.K. Singh, Gograj Singh Jat, Jogendra Singh, Suman Lata, Yvonne Angel Lyngdoh, Ritu Jain, Pragya Ranjan and Arvind K. Singh

Published by

Dr Balraj Singh, Organizing Secretary and President, SHRD, Ghaziabad, (Uttar Pradesh), India

Citation

Balraj Singh, Som Dutt, B.S. Tomar, A.K. Srivastava, J.K. Ranjan, P.K. Singh, Gograj Singh Jat, Jogendra Singh, Suman Lata, Yvonne Angel Lyngdoh, Ritu Jain, Pragya Ranjan and Arvind K. Singh

(2020) Book of Abstracts. Indian Horticulture Summit-2020 on *Mitigating Climatic Changes and Doubling Farmers' Income though Diversification,* 14-16 February 2020 at MGCGV, Chitrakoot (M.P.), Oraganized by SHRD, Ghazibad (Uttar Pradesh), India.

Address for Communication

Dr Balraj Singh
Former Vice-Chancellor, Agriculture University, Jodhpur, Rajasthan, India
Principal Scientist & Project Co-ordinator (In-charge)
AICRP on Honey Bee & Pollinators, ICAR-IARI, Pusa Campus, New Delhi-110012
E-mail: drbsingh2000@yahoo.com, drbsingh2000@gmail.com
Mobile: +91-8104736333, 9811271303
Telephone: 011-25840085 (O)

Printed at

Alpha Printers, WZ-35/C, Naraina Ring Road, New Delhi-110028.
E-mail: alphaprinters35@gmail.com, Mobile: 9810804196

Preface

The horticultural crops, contributing so effectively to the economy of India in general and rural people in particular, has shown some phenomenal increase in area and production in terms of their share to total agricultural production during the last two to three decades. The modern day technology loaded horticulture has become the major key driver of economic development in India, contributing 31% to GDP of agriculture, usually called as technology-led development. Horticulture sector received a focused attention from 7th five year plan onwards, as a result, there has been not only sustained increase in production of horticultural crops, but hi-tech horticulture has also been recognized as a commercial and viable proposition. This sector is providing an opportunity for crop diversification, resulting in an increased income from the land coupled with nutritional security. The benefit of area expansion in horticulture in clusters supported by post-harvest management infrastructure has percolated down to even small and marginal farmers, a number of whom contribute to the export of horticultural produce. To harness nature's benevolent agro climatic factors prevailing in India, the approach adopted for horticultural development programme for economic welfare of the people is centred through agro-ecological land-use planning, adopting farming system linked to watershed-based approach. Inspired by these breakthroughs, we initiated the journal, ***Current Hortiultute*** published by the Society for Horticultural Research and Development (SHRD), Gaziabad, Uttar Pradesh (India).

The initiation of journal ***(Current Horticulture)*** was a timely gesture to provide a viable platform to horticulture science using multi-disciplinary via-medium. In the mean time, journal was recognised by NAAS (a premier scientific body in agricultural sciences), though at a comparatively lower score of 3.71 than ours expectations by any mean, but it has been accomplished only within 3 years of existence of the journal, on a short time scale, it is surely an achievement.

With the establishment of SHRD, various activities of the society got proper momentum. The proposal of organising the **Indian Horticulture Summit-2020** was one of the milestones, where we received as many 389 ABSTRACTS, comprising 57 abstracts from as many 8 countries, is a glaring example, how SHRD started gaining name and distinction amongst horticulture fraternity on a global scale. This is the biggest solace in my life after having spent nearly 36 years dealing with horticulture science. This is kind of pay back to the society, which many can dream but only a few can fulfil. I am surely one of those privileged ones. I place on record my all acknowledgements to those, who have contributed their abstracts in such staggering number and lead lectures to see that the Indian Horticulture Summit-2020 receives a thumping success. We will achieve a grand success for the **Indian Horticulture Summit-2020**, with the support of you science seekers.

(Som Dutt)
Secretary, SHRD and
Managing Editor *(Current Horticulture)*

Contents

	Technical Sessions	ID Number	Page No.
1.	Quality Seed and Planting Material	OP-101 to 103	3 - 4
		PP-101 to 112	5 - 11
2.	Improvement and Breeding Approaches	OP-201 to 218	15 - 26
		PP-201 to 267	27 - 66
3.	Improving Productivity and Quality though Production Techniques	OP-301 to 313	69 - 76
		PP-301 to 3130	77 - 153
4.	Urban and Peri-Urban Horticulture	OP-401	157
		PP-401 to 409	157 - 162
5.	Mechanization in Horticulture	OP-501 to 502	165
		PP-501 to 503	165 - 167
6.	Plant Health Management	OP-601 to 606	171 - 174
		PP-601 to 627	175 - 191
7.	Secondary Horticulture	OP-701 to 704	195 - 196
		PP-701 to 743	197 - 221
8.	Climate change and Horticulture	OP-801 to 802	225 - 226
		PP-801 to 809	226 - 232
9.	Social Sciences and Horticulture Business	OP-901 to 905	235 - 238
		PP-901 to 926	239 - 254
Author Index			255 - 263
Membership Form *(Current Horticulture)*			264

PP-382

Soil macrofauna regulates organic matter turnover in a Mediterranean olive grove

Adriano Sofo[1*] and Patrizia Ricciuti[2]

[1]Department of European and MediterraneanCultures: Architecture, Environment and Cultural Heritage (DiCEM), Università degli Studi della Basilicata, Via Lanera 20, 75100, Matera, Italy.
[2]Department of Soil, Plant and Food Sciences (DiSSPA), Università degli Studi di Bari 'Aldo Moro', Via Amendola, 165, 70126 Bari
**E-mail: adriano.sofo@unibas.it*

The study was carried out to characterize and compare C/N dynamics and other soil physico-chemical parameters, soil macrofauna abundance, bioturbation and litter/SOM decomposition indices in a Mediterranean olive (*Olea europaea* L.) orchard subjected to two different soil management systems (namely sustainable, S_{mng}, and conventional, C_{mng}) for 18 years. The adoption of S_{mng} system significantly increased almost three times the abundance of earthworms and two times that of other macrofauna. Bioturbation due to soil fauna and roots was significantly higher in the S_{mng} system, and this caused a significantly faster SOM decomposition measured both in local litter bags and in tea bags. The results highlighted that a great part of the soil quality and fertility of the S_{mng} system could be due to the bioturbation activity of soil fauna, together with its interaction with decomposing microorganisms. It emerged that the role of soil fauna should be seriously taken into account in future land management strategies not exclusively focused on fruit yield and quality.

PP-383

Effect of mycorrhiza inoculation on cucumber *(Cucumis sativus)* growth and mycorrhizal dependency

Soylu F., Isk M. and Ortas, I[*]

Department of Soil Science and Plant Nutrition, Faculty of Agriculture, University of Cukurova, 01330-Turkey
**E-mail: iortas@cu.edu.tr*

The study was carried out to understand AM application on some morphologic parameters of cucumber (*Cucumis sativus* L.). Hypothesis of study was the AM application enhance cucumber growth and mycorrhizal dependency. A greenhouse experiment was established in a randomized blocks design in 2018. Cucumber seedlings were used as a host plants and at sowing *Glomus mosseae* used as mycorrhiza species. Experiment was conducted under greenhouseconditions with three replicates. Seedlings were harvested 40th days after germination. Plant root and shoot dry weight and fresh weight recorded after harvest. Plant leaves length and diameters were measure before harvesting. In addition, plant root length, volume, surface area and diameter were analyzed by Win Rhizo. Mycorrhizal dependency of cucumber was calculated. Generally, results shown that AM application increase cucumber total dry weight, root length, volume and surface area. Also mycorrhizal inoculation increased plant leaves area. Compared to non-mycorrhizae inoculation inoculated plant increased 15% of dry weight and also cucumber plant has 13% of mycorrhizal dependency. The mycorrhizae inoculated cucumber seedlings can be produced and further can be tested and used for field work.