

Souvenir is available on www.aedsi.org

2nd International Conference

On

Recent Advances in Agricultural, Environmental & Applied Sciences for Global Development

(RAAEASGD-2019)

27-29, September, 2019

SOUVENIR

Organized by



Agro Environmental Development Society
(AEDS), Majhra Ghat, Rampur UP, India
(www.aedsi.org)

Co-Organized by



Dr. Yashwant Singh Parmar University of Horticulture and Forestry,
Solan, Himachal Pradesh, India.
(www.yspuniversity.ac.in)

In Association with



Plant Pathology Research Institute,
Agricultural Research Center,
Cairo University Giza, Egypt
(www.arc.sci.eg)



Tribhuvan University,
Institute of Forestry,
Pokhara Campus, Nepal
(www.iofpc.edu.np)

2nd International Conference
On
Recent Advances in Agricultural, Environmental &
Applied Sciences for Global Development
(RAAEASGD-2019)

September 27-29, 2019

Organized by



Agro Environmental Development Society (AEDS)
Majhra Ghat, Rampur, UP, India
(www.aedsi.org)

Co-Organized by



Dr. Yashwant Singh Parmar University of Horticulture and Forestry,
Solan, Himachal Pradesh, India.
(www.jspuniversity.ac.in)

In Association with



Plant Pathology Research Institute,
Agricultural Research Center,
Cairo University Giza, Egypt
(www.arc.sci.eg)



Tribhuvan University, Institute of Forestry,
Pokhara Campus-53271, Nepal
(www.iofpc.edu.np)

Venue:
Venue: L.S. Negi Auditorium, Dr. Yashwant Singh Parmar University
of Horticulture and Forestry,
Nauni, Solan, Himachal Pradesh, India.



present study, PCR based rapid, reliable and easy detection techniques were developed for diagnosis of these fungal pathogens. Loop-mediated isothermal amplification (LAMP) PCR technique was used which clearly detected thirty-five different isolates of *Fusarium oxysporum* sp. *ciceri* collected from different regions of north India. LAMP primers were also able to differentiate these fungal isolates from *Ustilago tritici* and *Puccinia striiformis* f. sp. *tritici*. Further, qRT (quantitative real time) PCR conferred that approximately 3000 genome copies of *Fusarium oxysporum* can be detected by the LAMP primer. It was thus concluded that LAMP, and qRT-PCR are highly sensitive, less time-consuming, and rapid diagnostic assays which could be developed for early detection of prevalent pathogens.

Keywords:- LAMP, qRT-PCR, *Fusarium oxysporum*, early detection etc.

Delineation of soil nutrient constraints of cashew orchards in India and management alternatives

Shamsudheen Mangalassery*, M.G. Nayak and Prabha S. Philip

ICAR-Directorate of Cashew Research, Puttur 574202, Dakshina Kannada, Karnataka, India

*Corresponding author: shamsudheenm@gmail.com

Cashew growing soils are generally deficient in plant nutrients mainly due to the landscape settings in which it is traditionally grown. The yield gap analysis revealed that the optimum production potential of cashew is yet to be tapped. Poor nutrition is likely to be one of the major factors contributing to low nut yield and quality. Optimization of cashew productivity and quality requires an understanding of the nutrient requirements of the tree, the factors that influence nutrient availability and the methods used to diagnose and correct deficiencies. For this detailed survey cashew growing areas is required. Timely management interventions are necessary to stop the depletion of soil nutrient reserves and to realize maximum yield from cashew. This study was undertaken to assess the soil nutrients limiting the productivity of cashew in India and to suggest management alternatives. Regional surveys were carried out in cashew plantations of Puttur, Vengurla, Bhubaneswar, Bapatla, Pilicode and Vridachalam. Soil and leaf samples were collected from 70 orchards in each location. Cashew orchards sampled were acidic and non saline. Organic carbon content of cashew growing areas was on the higher side except for Bhubaneswar, Bapatla and Vridachalam. These soils were deficient in available N, P and low to medium in K. Among the DTPA extractable micronutrients, soils were deficient in Zn and Cu. Soil fertility and nutrient supply is one of the important factor deciding yield and quality of the produce. At field and orchard level, the nutrition aspect is not properly taken care of, causing continuous nutrient mining and deterioration of soil health, apart from yield decline. Various soil fertility management options are discussed in the paper. Management options for soil acidity, major and micronutrients and nutrient management under organic farming systems are discussed.

Key words: Cashew, organic farming, foliar nutrition, liming, integrated nutrient management, tropical soil.

Niche modelling of *Taxus contorta* Griff. in Shimla District of Himachal Pradesh

Saurav Chauhan¹, Shankharoop Ghoshal^{1*}

¹School of Biological and Environmental Sciences, Shoolini University of Biotechnology and Management Sciences, Solan, Himachal Pradesh, India

*Corresponding Author: shankharoop@gmail.com

Species distribution modelling (SDM) helps to evaluate the distribution of species by using occurrence data and environmental variables, which is an important tool for investigating distribution range of rare and endangered species. *Taxus contorta* Griff. is categorized as an endangered species by IUCN. Using MaxEnt a statistical tool for SDM we recognized the distribution range of species in Shimla district for current and future scenarios. The present study models the potential current and future distribution ranges of *Taxus contorta* based on its suitable climatic envelope developed under a baseline scenario (1960–1990) and climate change scenarios centred on representative concentration pathways (RCPs) for the year 2070, as provided in the Fifth Assessment Report (AR5) of the UN's Intergovernmental Panel on Climate Change (IPCC). In this study, we used the area under the curve (AUC) of the receiver operator characteristics as an indicator of MaxEnt performance. The AUC value for our model exceeded the minimum standard. The approach could be promising in predicting the potential distribution of plant species and thus, can be an effective tool in species restoration and conservation planning.