NEWSBULLETIN

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CSIR-NATIONAL BOTANICAL RESEARCH INSTITUTE, LUCKNOW

The Environmental Information System at Eco-Auditing Laboratory, National Botanical Research Institute is focussed on "Plants & Pollution". This is the E-mail Publication that Feature News, Information and Events Related to Plants & Pollution.

The Focus of ENVIS has been on Providing Environmental Information to Decision Makers, Policy Planners, Scientists and Engineers, Research Workers, etc. all over the World.

Eco-Auditing Group is Involved in R & D on Eco-Monitoring, Environmental Impact Assessment, Eco-Friendly Models that are Technologically and Economically Feasible for Phytoremedia--tion of Polluted Lands and Polluted Waters etc.

News

Plant pathogen evades immune system by targeting the microbiome

A team of biologists has identified that the pathogenic fungus Verticillium dahliae, responsible for wilt disease in many crops, secretes an 'effector' molecule to target the microbiome of plants to promote infection. The research was performed by the team of Alexander von Humboldt Professor Dr. Bart Thomma at the University of Cologne (UoC) within the framework of the Cluster of Excellence on Plant Sciences (CEPLAS) in collaboration with the team of Dr. Michael Seidl at the Theoretical Biology & Bioinformatics group of Utrecht University in the Netherlands. The study "An ancient antimicrobial protein co-opted by a fungal plant pathogen for in planta mycobiome manipulation' has appeared in the Proceedings of the National Academy of Sciences (PNAS). **…..Read more...**

Date: December 02, 2021
Source: phys.org

Excess salt in soils puts food security at risk: FAO

Soil salinization refers to excessive levels of salt in the soil, which can inhibit plant growth and even be toxic to life. It can occur naturally, for example in deserts due to lack of water and intense evaporation, or as a consequence of human activity. FAO is highlighting the issue in marking World Soil Day on Friday, ahead of the official commemoration on Sunday. “Soil is the foundation of agriculture and the world’s farmers depend on soil to produce about 95 per cent of the food we eat. Yet, our soils are at risk,” said Qu Dongyu, the agency’s Director-General, in advance of the Day, which is organized around the theme of Halt soil salinization, boost soil productivity. FAO said unsustainable agricultural practices and the overexploitation of natural resources, as well as a growing global population, are putting increased pressure on soils and causing alarming rates of soil degradation worldwide. **.....Read more...**

Date: December 03, 2021
Source: UN News

Plant Disease Management: New Method for Early Detection of Bacterial Infection in Crops

Researchers from the Disruptive and Sustainable Technologies for Agricultural Precision (DiSTAP) Interdisciplinary Research Group (IRG) of Singapore-MIT Alliance for Research and Technology (SMART), MIT’s research enterprise in Singapore, and their local collaborators from Temasek Life Sciences Laboratory (TLL), have developed a rapid Raman spectroscopy-based method for detecting and quantifying early bacterial infection in crops. The Raman spectral biomarkers and diagnostic algorithm enable the noninvasive and early diagnosis of bacterial infections in crop plants, which can be critical for the progress of plant disease management and agricultural productivity. Due to the increasing demand for global food supply and security, there is a growing need to improve agricultural production systems and increase crop productivity. Globally, **…...Read more...**

Date: December 07, 2021
Source: Sci Tech Daily

Remarkable Regenerative Powers: Scientists Solve the Grass Leaf Conundrum

Grass is cut regularly by our mowers and grazed on by cows and sheep, yet continues to grow back. The secret to its remarkable regenerative powers lies in part in the shape of its leaves, but how that shape arises has been a topic of longstanding debate. The debate is relevant to our staple crops wheat, rice, and maize, because they are members of the grass family with the same type of leaf.The mystery of grass leaf formation has now been unraveled by a John Innes Centre team, in collaboration with Cornell University and the University of California, Berkley, and the University of Edinburgh using the latest computational modeling and developmental genetic techniques. One of the corresponding authors Professor Enrico Coen said of the findings which appear in Science: “ **…...Read more...**

Date: December 09, 2021
Source: Sci Tech Daily

New understanding of plant nutrient response could improve fertilizer management strategies

Green is a color that is almost universally associated with plants -- for good reason. The green pigment chlorophyll is essential to plants' ability to generate food; but what happens if they don't have enough of it? New work from Carnegie, Michigan State University, and the National Research Institute for Agriculture, Food and Environment in France reveals the complex, interdependent nutrient responses underpinning a potentially deadly, low-chlorophyll state called chlorosis that's associated with an anemic, yellow appearance. Their findings, published by Nature Communications, could usher in more environmentally friendly agricultural practices -- using less fertilizer and fewer water resources. **…...Read more...**

Date: December 10, 2021
Source: Science Daily

NEWSBULLETIN COMMITTEE

Executive Editor
Dr. Pankaj Kumar Srivastava pankajk@nbri.res.in

Compiled By
Mr.Sunil Tripathi, Mr. Diwakar Saini