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Abstract

Advanced diagnosis of pre and post-harvest fruit Diseases and their management to education

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Abstract:

The diseases are severely affected multibillion-dollar fruits industry by plant pathogens including fungi, bacteria, and viruses. Many of the diseases in fruits have similar signs and symptoms, making it difficult to diagnose the specific problem pathogen. Incorrect diagnosis leads to the delay of treatment and excessive use of post-harvest chemicals. Proper identification of damage, defects, diseases, and disorders is the first step in solving the issue and producing quality fruit. There are many methods for diagnosing pathogens on fruit. Traditional methods include symptoms, morphology, and microscopy identification. These have been followed by nucleic acid detection and onsite detection techniques. Many of these methods allow for rapid diagnosis, some even within the field without much expertise. There are several methods that have great potentials, such as high-throughput sequencing and remote sensing. The utilization of these techniques for disease diagnosis allows for faster and accurate disease diagnosis and a reduction in damage and cost of control. Understanding each of these techniques can allow researchers to select which method is best suited for their pathogen of interest. Almost 90% of fruit diseases are caused by fungi; however other groups cause damage, including bacteria, and viruses. Blue and gray mold caused by Penicillium expansum and Botrytis cinerea, respectively are the most prominent postharvest diseases on pome fruit. Control of this devastating pathogen mainly relies on the use of fungicides but the development of resistance has become an important factor in limiting the efficacy and useful lifetime of fungicides. Thus, there is an urgent need for an alternative fungicide or fungicides for controlling these post-harvest pathogens.

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Publication of speakers:

1. Alothman, Zeid & Badjah-Hadj-Ahmed, A. & Alharbi, Omar & Ali, Prof. Imran. (2020). Copper carboxymethyl cellulose nanoparticles for efficient removal of tetracycline antibiotics in water. Environmental Science and Pollution Research. 27. 10.1007/s11356-020-10189-1.
2. Alothman, Zeid & Badjah-Hadj-Ahmed, A. & Alharbi, Omar & Ali, Prof. Imran. (2020). Cobalt doping of titanium oxide nanoparticles for atenolol photodegradation in water. Environmental Science and Pollution Research. 1-8. 10.1007/s11356-020-11071-w.
3. Khan, Afzal & Khan, Nadeem & Ahmed, Sirajuddin & Dhingra, Aastha & Singh, Chandra & Khan, Saif & Mohammadi, Aliakbar & Changani khorasgani, Fazlollah & Yousefi, Mahmood & Alam, Shamshad & Vambol, Sergij & Vambol, Viola & Khursheed, Anwar & Ali, Prof. Imran. (2020). Application of advanced oxidation processes followed by different treatment technologies for hospital wastewater treatment. Journal of Cleaner Production. 269. 122411. 10.1016/j.jclepro.2020.122411.
4. Ali, Prof. Imran & Afshinb, Shirin & Poureshgh, Yousef & Azari, Ali & Rashtbari, Yousef & Feizizadeh, Abolfazl & Hamzezadeh, Asghar & Fazlzadehdavilb, Mehdi. (2020). Green preparation of activated carbon from pomegranate peel coated with zero-valent iron nanoparticles (nZVI) and isotherm and kinetic studies of amoxicillin removal in water. Environmental Science and Pollution Research. 27. 1-12. 10.1007/s11356-020-09310-1.

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