

The journal of plant pathology editors' choice august 2023

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There are four Editors' Choice (EC) papers in the current issue of the Journal of Plant Pathology, selected by the Senior Editors of the Journal for their timeliness and innovation. Together, these papers represent studies performed by research groups in Morocco, China and in the USA. All of the EC papers in this issue address important aspects of the epidemiology of various plant diseases, and they do so either by comprehensively reviewing the current literature, by combining interviews with growers with field sampling, or by the experimental testing of various substrates that may be acting as inoculum sources involved in the disease cycle or may act as inoculum sinks lowering inoculum pressure.

In “*Podosphaera cerasi*- An old foe of US sweet cherry with a new name –its biology, epidemiology, and beyond” Moparthi et al. (USA) present a well-written review to serve production managers in the control of an important pathogen of cherries. The review summarizes the economic impacts caused by this powdery mildew on cherry production, and further describes the environmental aspects contributing to the epidemiology of the disease and the management options available, including conventional chemical and biopesticide products, mycoviruses, and host–pathogen resistance based on cultivar.

In “Deciphering environmental conditions and agronomic factors underpinning the development of date palm inflorescence rot under Moroccan conditions: A survey study”, Bouhlali and coauthors (Morocco) tackle date palm inflorescence rot, a significant fungal disease in Moroccan date producing areas, for which limited information is available. The researchers aimed to provide information on disease prevalence and distribution, as well as on factors contributing to its persistence and dissemination, thanks to a combination of disease field surveys and questionnaires for local growers. Not only did the researchers identify the main agent responsible for the rot, but the study also showed that intercropping and high planting density, combined with frequent irrigations, created ideal conditions for disease development. Additionally, it was also possible to determine that farmers' cultural practices, the misuse

or no use of pesticides, and lack of exclusion methods—specifically the use of diseased male inflorescence in pollination—contributed significantly to pathogen spread. This mixed-approach study improves our understanding of the biology of date palm inflorescence rot and highlights the urgent need to train farmers on good agricultural practices for limiting disease spread and development.

In “Coffee leaf rust (*Hemileia vastatrix*) is spread by rain splash from infected leaf litter in a semi-controlled experiment” Li et al. (USA) perform a classic semi-controlled experiment to confirm the role of infected litter as an inoculum source. Thanks to a simple and robust design, the authors were able to experimentally verify that splash from leaf litter can lead to *H. vastatrix* dispersal and plant infection. Since coffee plants with coffee leaf rust drop their infected leaves, rain splash from infected leaf litter could be a significant pathway for pathogen dispersal. If the experimental results are confirmed in the field, the presence of natural groundcover or of cover crops may be investigated to mitigate the newly discovered litter-to-plant infection pathway.

In “Crop rotation suppresses tobacco black shank disease incited by *Phytophthora nicotianae* and influences the structure of rhizosphere bacterial communities”, Gai and coauthors (China) investigate whether crop rotation may be used to control a devastating and widespread disease of tobacco. Their experimental approach is noteworthy for three reasons: (1) a total of ten alternate rotational crops were studied; (2) various metrics of disease severity and incidence were utilized, making the results robust; (3) the effects of the various rotation crops on bacterial assemblages of the rhizosphere were further investigated. Based on the results of this study, the development of an integrated management strategy using crop rotation along with breeding and reduced fungicide application rates should be developed and tested. Although a few rotational crops were found to be effective in reducing disease, the authors point out that some (e.g., garlic) may negatively affect tobacco yield, while others (e.g., ryegrass) may require cool and wet climates not

always present in tobacco growing areas, thus the results are presented in a realistic framework and can be easily applied to the production process.

We hope you are going to enjoy these articles that, in our opinion, represent some of the best contemporary Plant Pathology has to offer around the world. In the meanwhile, please join us in congratulating the authors for a job well done.

Matteo Garbelotto, Editor in Chief.

Luisa Rubino, Managing Editor.

Paolo Gonthier, Senior Editor.

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