



Endophytes in Plant Health and Disease

Guest Editor:

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Message from the Guest Editor

Dear colleagues,

In 2019, we celebrated the 150th anniversary of Schwendener's landmark paper revealing that lichens are not plants but a collaboration between fungi and microalgae. This discovery was considered a botanical heresy at the time, because it did not appear to fit with the Darwinian struggle for survival. Later, it was realised that the mutualist partners increased their fitness in this symbiosis.

In this Special Issue, we are focussing on the effects endophytes are having on plant health. Plants are subjected to a variety of abiotic and biotic stresses. Increasingly, we are understanding that endophytes play a role in mitigating these stresses. Concentrating on plant disease, we see that endophytes directly and indirectly inhibit pathogens. Some endophytes modulate signalling pathways and prime the host's defence systems. Others produce secondary metabolites that have antifungal and antibiotic activity and even anticancer activity. These endophytes are being manipulated to improve plant health and for a range of medical and biotech applications.

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Guest Editor





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Message from the Editor-in-Chief

The worldwide impact of infectious disease is incalculable. The consequences for human health in terms of morbidity and mortality are obvious and vast but, when infections of animals and plants are also taken into account, it is hard to imagine any other disease that has such a significant impact on our lives—on healthcare systems, on agriculture and on world economics. *Pathogens* is proud to continue to serve the international community by publishing high quality studies that further our understanding of infection and have meaningful consequences for disease intervention.

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