Understanding disease suppressive soils: molecular and chemical identification of microorganisms and mechanisms involved in soil suppressiveness to Fusarium culmorum of wheat

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propositions accompanying the thesis

Understanding disease suppressive soils: Molecular and chemical identification of microorganisms and mechanisms involved in soil suppressiveness to Fusarium culmorum of wheat

1. Taxonomic analysis of soil microbial communities is not sufficient to understand microbiome-driven phenomena (this thesis).
2. Integration of phenotypic, taxonomic, metagenomic, transcriptomic and metabolic data is crucial for understanding microbiome functions in complex environments such as soil (this thesis).
3. Perturbation methods are promising tools to study complex microbiome associated host phenotypes (this thesis).
4. Accumulation of plastic in soils has an unpredictable effect on microbiome structure (this thesis).
5. Various recent studies were dedicated to unravel the chemical diversity of microbial volatile compounds, but their functional roles in natural ecosystems remain largely elusive.
6. The microbiome of suppressive soils can directly affect growth of soil borne plant pathogens, but may also control infection by suppressing the expression of specific pathogenicity factors.
7. Many yet unculturable microorganisms may become culturable in laboratory conditions when they are co-cultured with their microbial partners.
8. Exploring the largely unknown diversity of the soil virome will provide new insights into the functioning of the soil and plant microbiome.
9. Scientists should dedicate more research to filling databases, not only using them.
10. Plastic is a great invention, we just use it wrong.
11. In science and society, there is always at least one more task to do, one more hypothesis to test, one more experiment to add, one more mountain to climb and one more article to write.

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