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Catching cereal killers: a multi-omics approach to disentangle yeast-Fusarium interactions in the phyllosphere

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Propositions

accompanying the thesis

Catching cereal killers

A multi-omics approach to disentangle yeast-Fusarium interactions in the phyllosphere

1. Phyllosphere yeasts are specialized to colonize and survive in the aboveground plant environment, which is reflected by their genomic content (this thesis).
2. Alcohol-containing volatiles and their precursor are effective in growth inhibition of *Fusarium graminearum* (this thesis).
3. The ability of phyllosphere yeasts to degrade mycotoxin precursors or inhibit mycotoxin biosynthesis offers an innovative approach to improve crop production and food safety (this thesis).
4. Phyllosphere yeasts are effective biocontrol agents that can be deployed for the control of *Fusarium* head blight in laboratory and greenhouse settings (this thesis).
5. A next step in disease suppression is to understand how *Fusarium graminearum* perceives volatiles and how that cascades into pathogen growth and mycotoxin inhibition.
6. Ecological research is a trade-off between realism and mechanistic resolution.
7. Farmers' practical expertise, combined with scientists' research-driven innovations, holds the key to implementing climate-resilient farming solutions that ensure long-term sustainability.
8. Fundamental knowledge is the cornerstone of scientific progress, as it provides the essential framework upon which applied research can be built.
9. Just as a painter's canvas captures their vision, a scientist's publications preserve their contributions to knowledge.
10. Failing in the preparation, is preparing for failing.