

# A systematic screening system for selection of fungal endophytes for *Septoria tritici* blotch control

Meike AC Latz, Birgit Jensen, David B Collinge,  
Hans JL Jørgensen



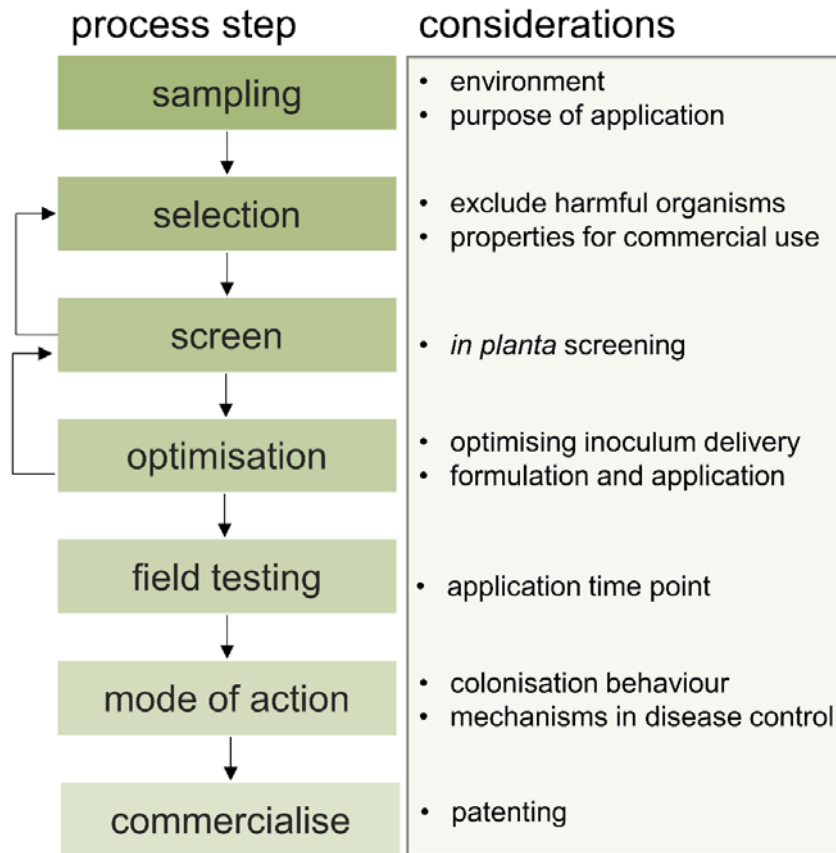
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# Endophytes – potentially more reliable BCAs

- Mostly bacteria and fungi
- **Harmless** – no obvious negative effects on the plant
- **Ubiquitous** – can be found in any plant and plant part
- **Diverse** – one leaf can harbour several hundred species
- **Beneficial** – some endophytes can support plant health

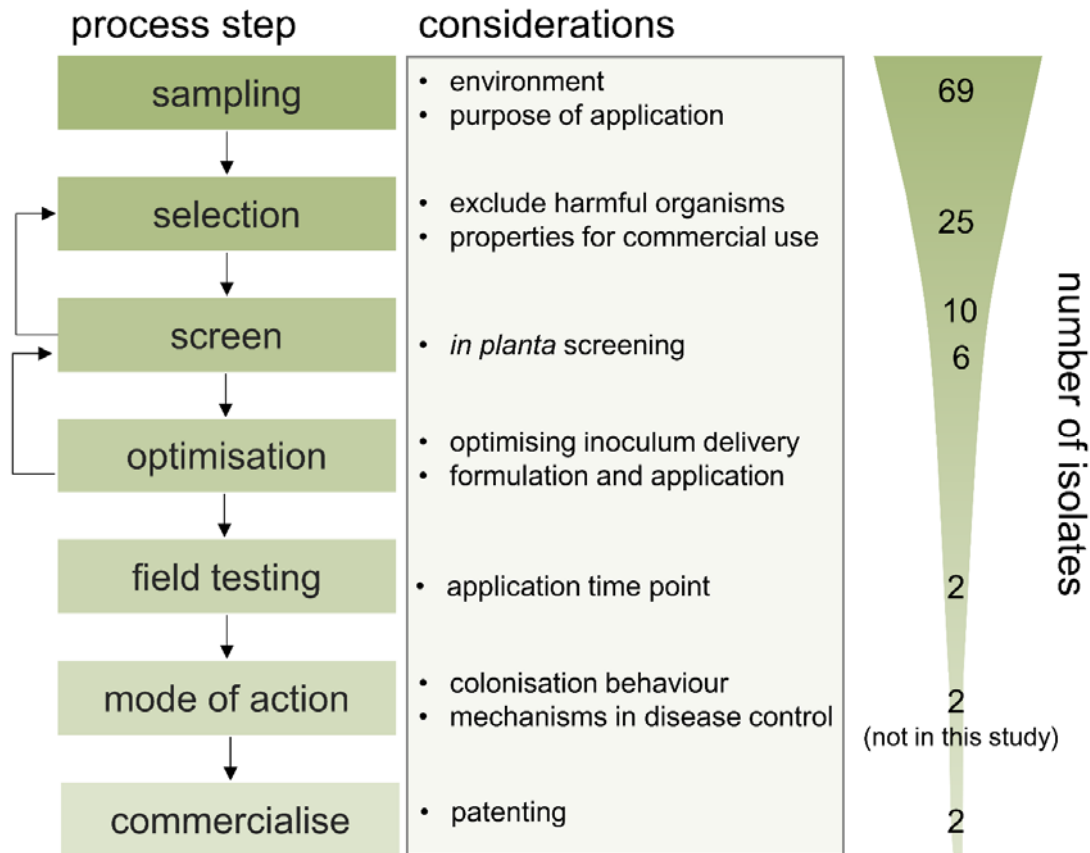


# How do we find successful BCAs?



- Hypothesis for isolation
  - Adapted to host, plant tissue, and environment
- Selection based on
  - *In planta* (not *in vitro*) testing
  - Easy propagation
  - Reported pathogen?

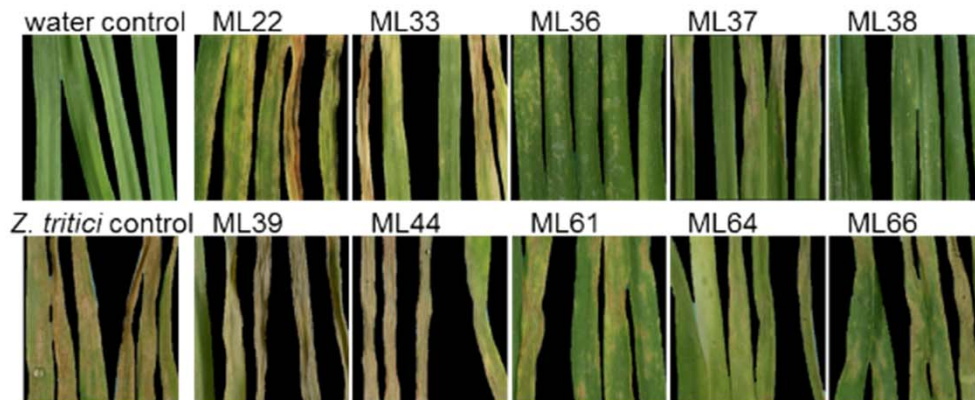
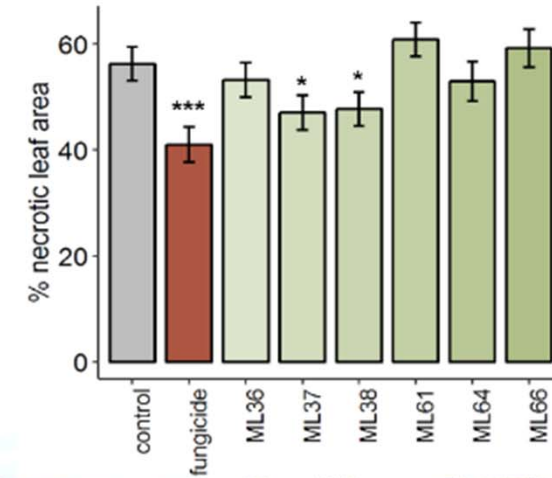
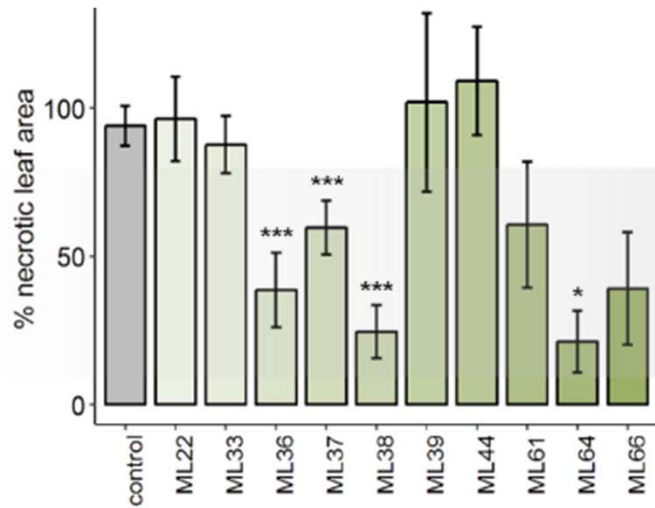
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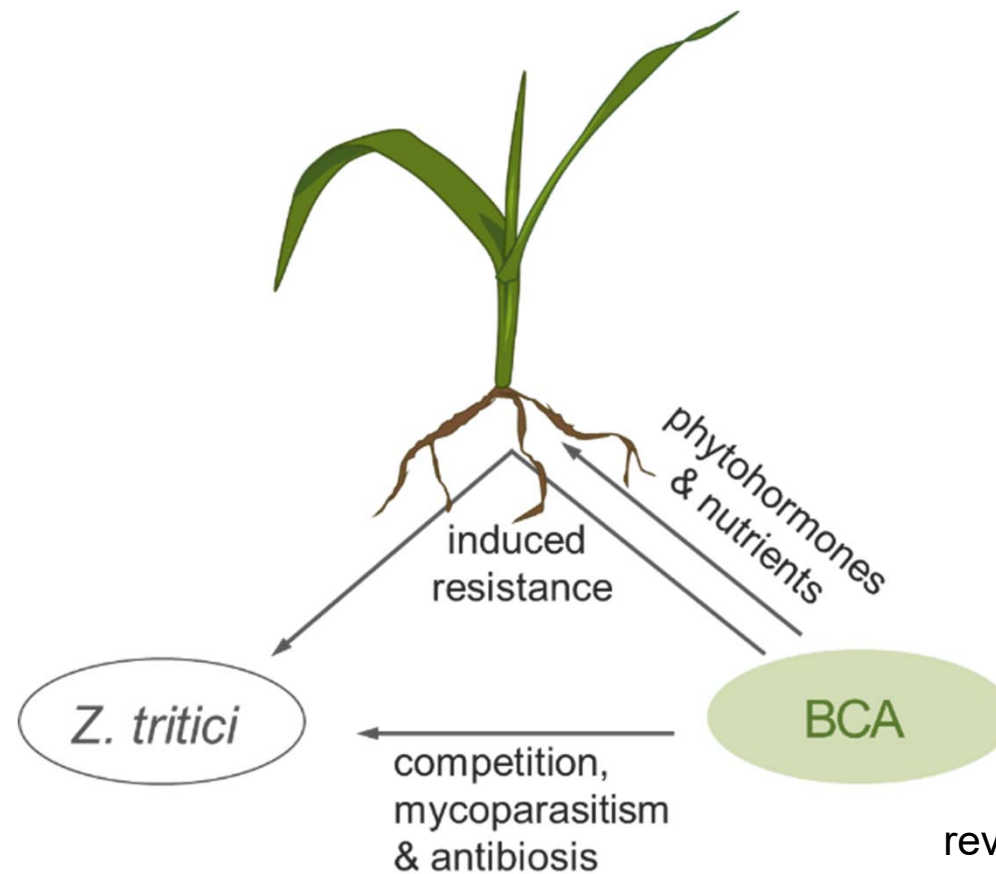
From lab to field

# Two endophyte isolates reduced STB severity



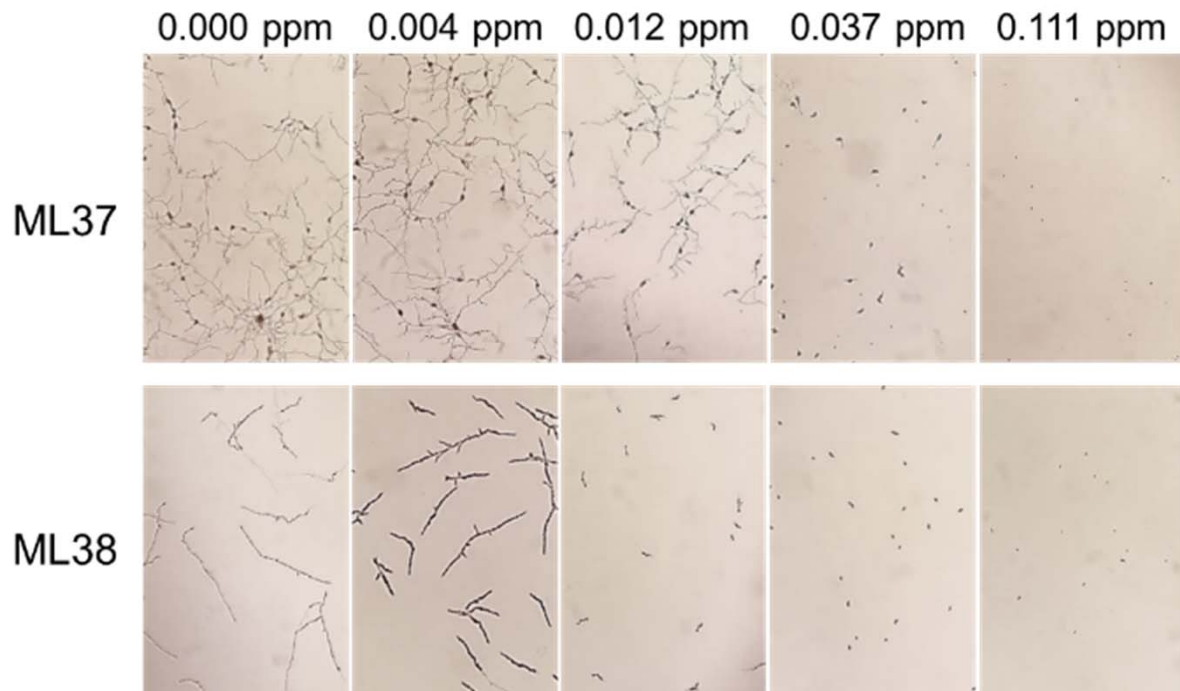
Latz et al 2020, *Biological Control*

# How does the BCA support the plant? Toward product optimisation and registration



reviewed in:  
Latz *et al* 2018, *Plant Ecol. & Divers.*

# Fungal strains germinate at low-dose concentrations of fungicide prothioconazole



- Combination of fungicides and endophytes
- Potential for integrated disease management
  - Decrease overall fungicide use



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