

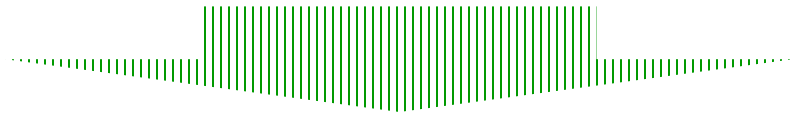


Plant-microbiota interactions in resistance breeding – The case of pea root rot

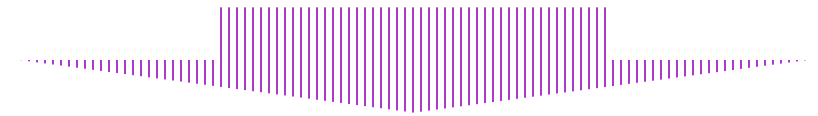
L. Wille, M. M. Messmer, P. Hohmann & B. Studer



NO PEA FOR
10
YEARS

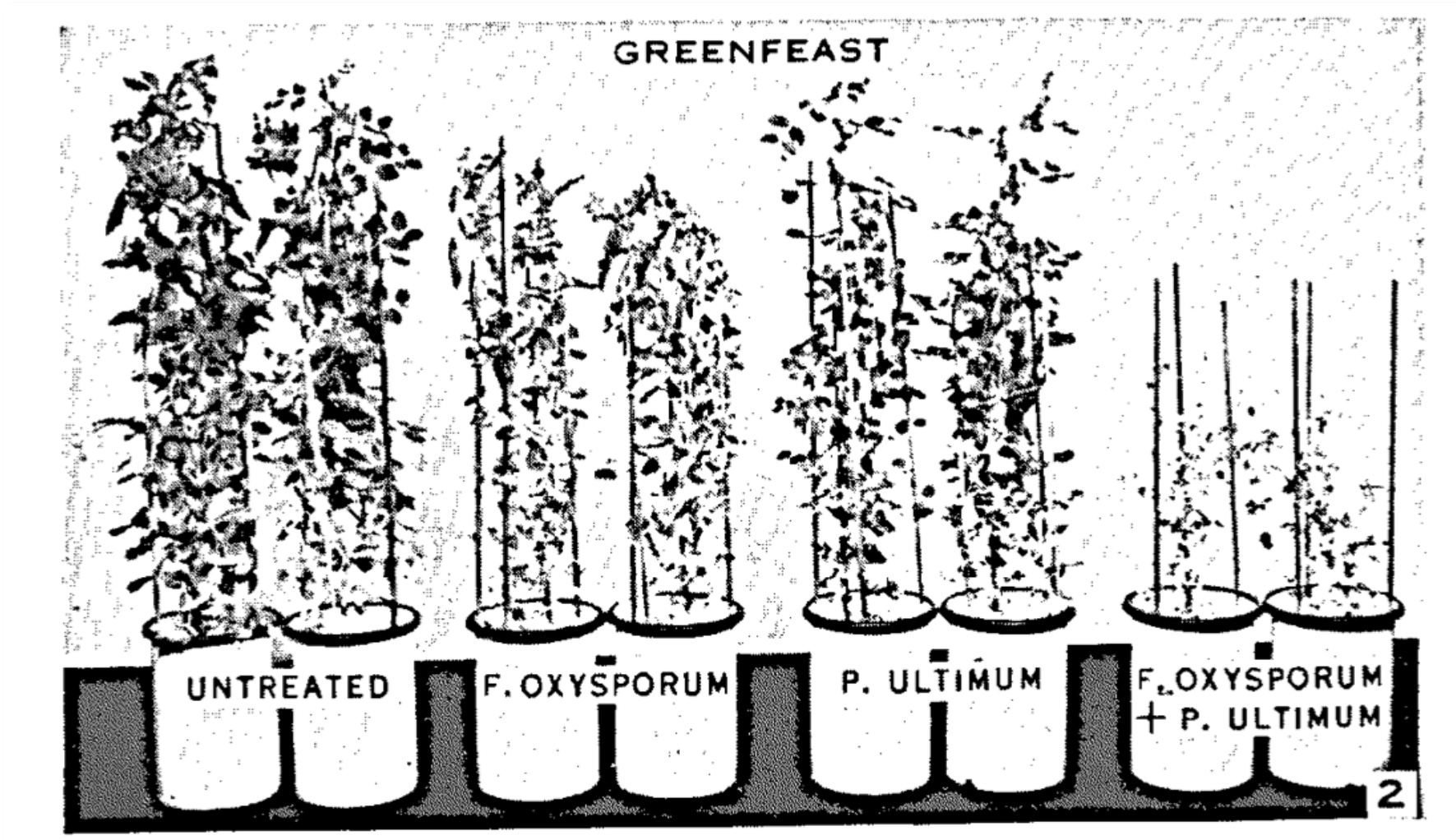


**Pea for food and feed –
an asset for sustainable farming
systems**



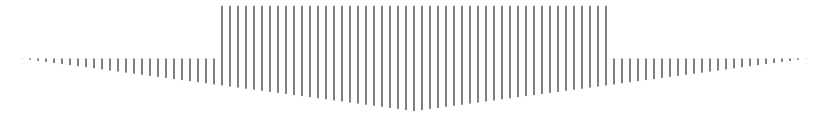
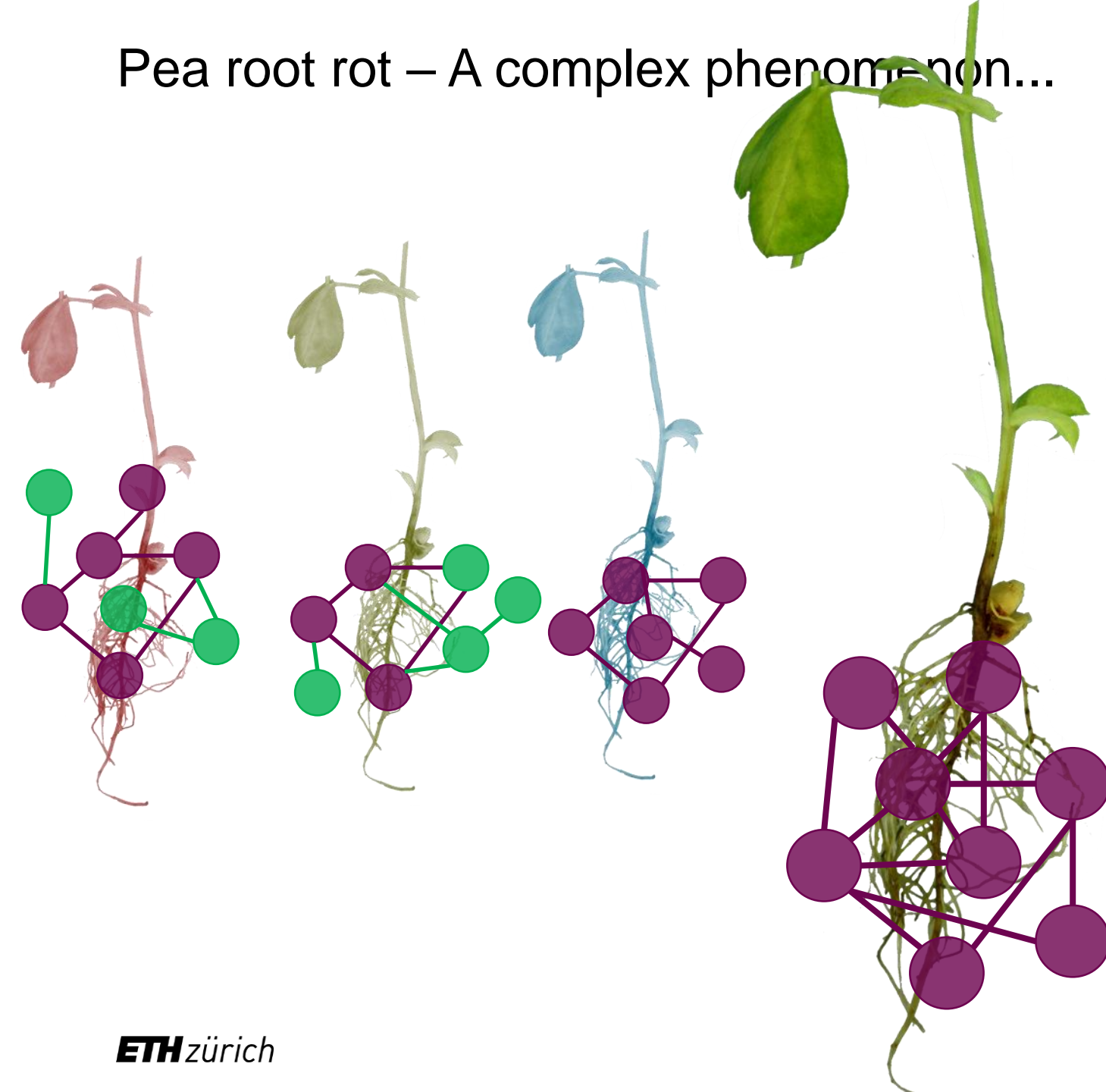
**Root rot complexes
challenge pea cultivation**

Pea root rot – A complex phenomenon...



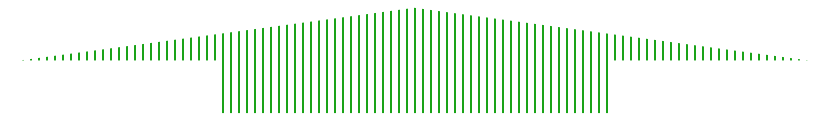
The root rot-Fusarium wilt complex of peas. Kerr 1963 *Australian Journal of Biological Sciences*

Pea root rot – A complex phenomenon...



The plant genotype determines the microbial composition

The microbial balance determines plant health



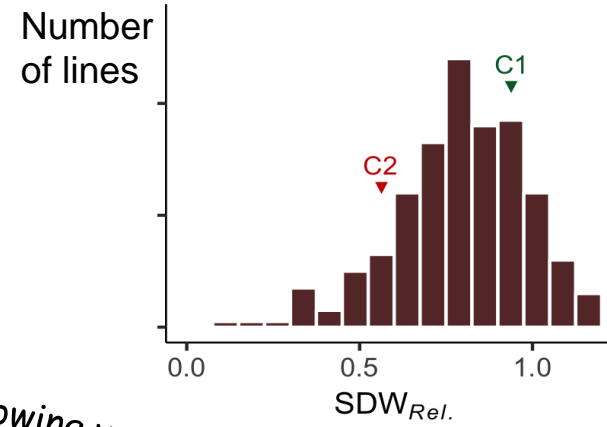
Screening for resistance against pathogen complexes

single species/strain
inoculation



Naturally infested field soil

Screening for resistance against pathogen complexes

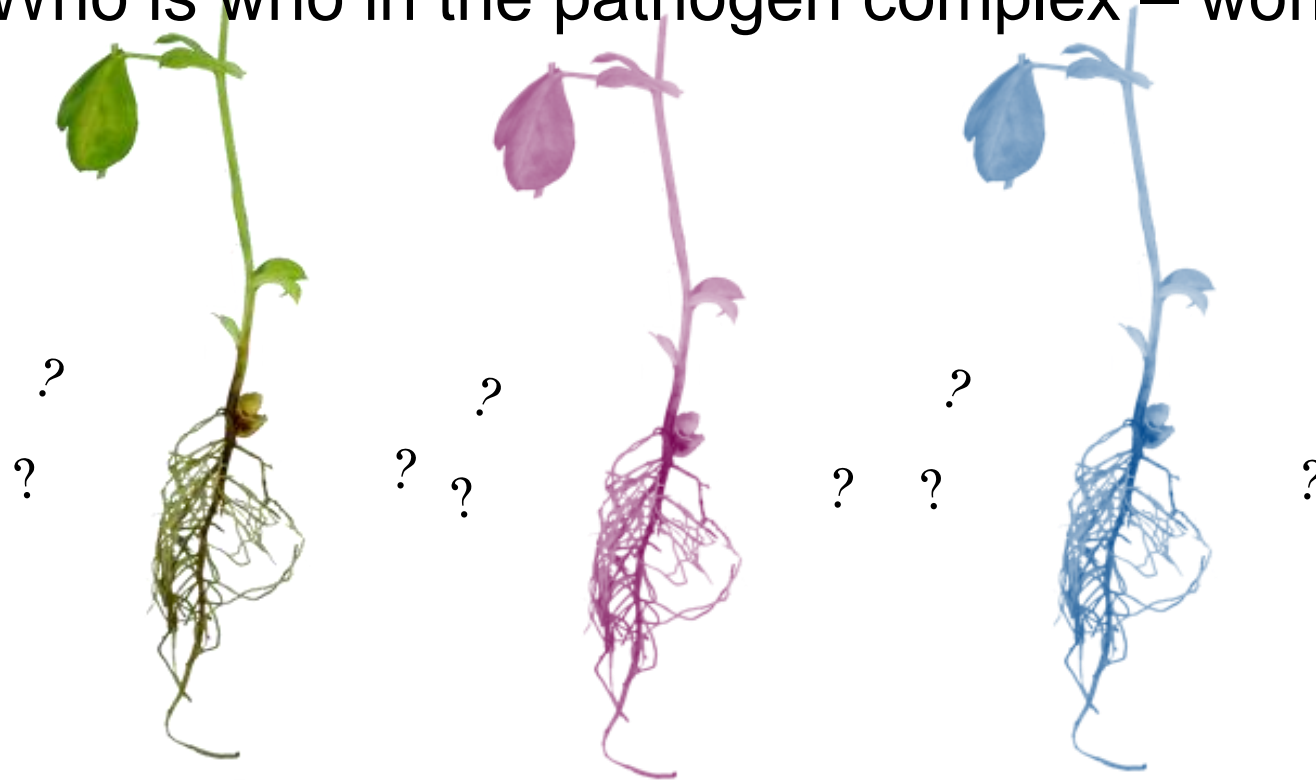


growing very badly

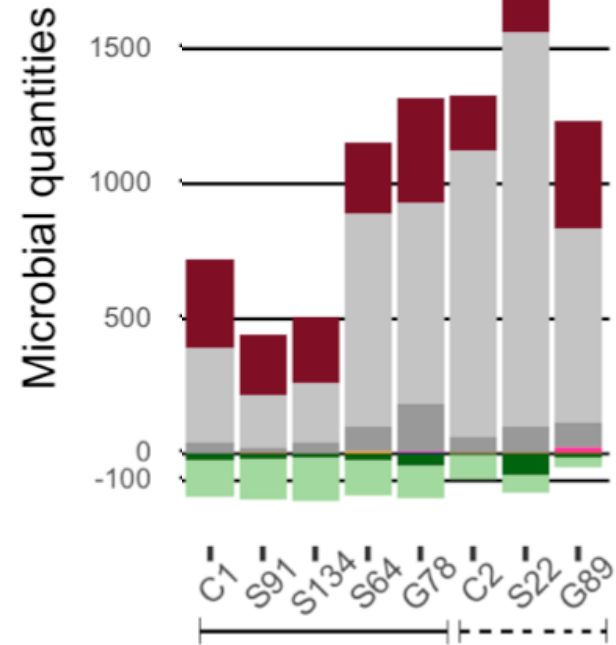
growing well



Who is who in the pathogen complex – work in progress...



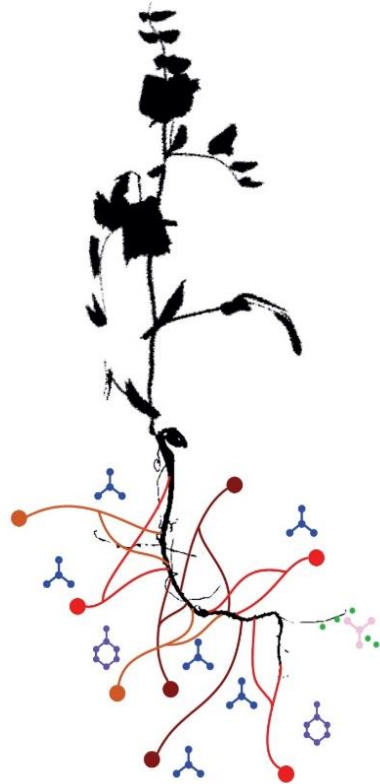
- AMF
- *A. euteiches*
- *C. rosea*
- *F. avenaceum*
- *F. oxysporum*
- *F. redolens*
- *F. solani*
- *D. pinodella*
- *P. ultimum*
- *R. solani*



resistant lines

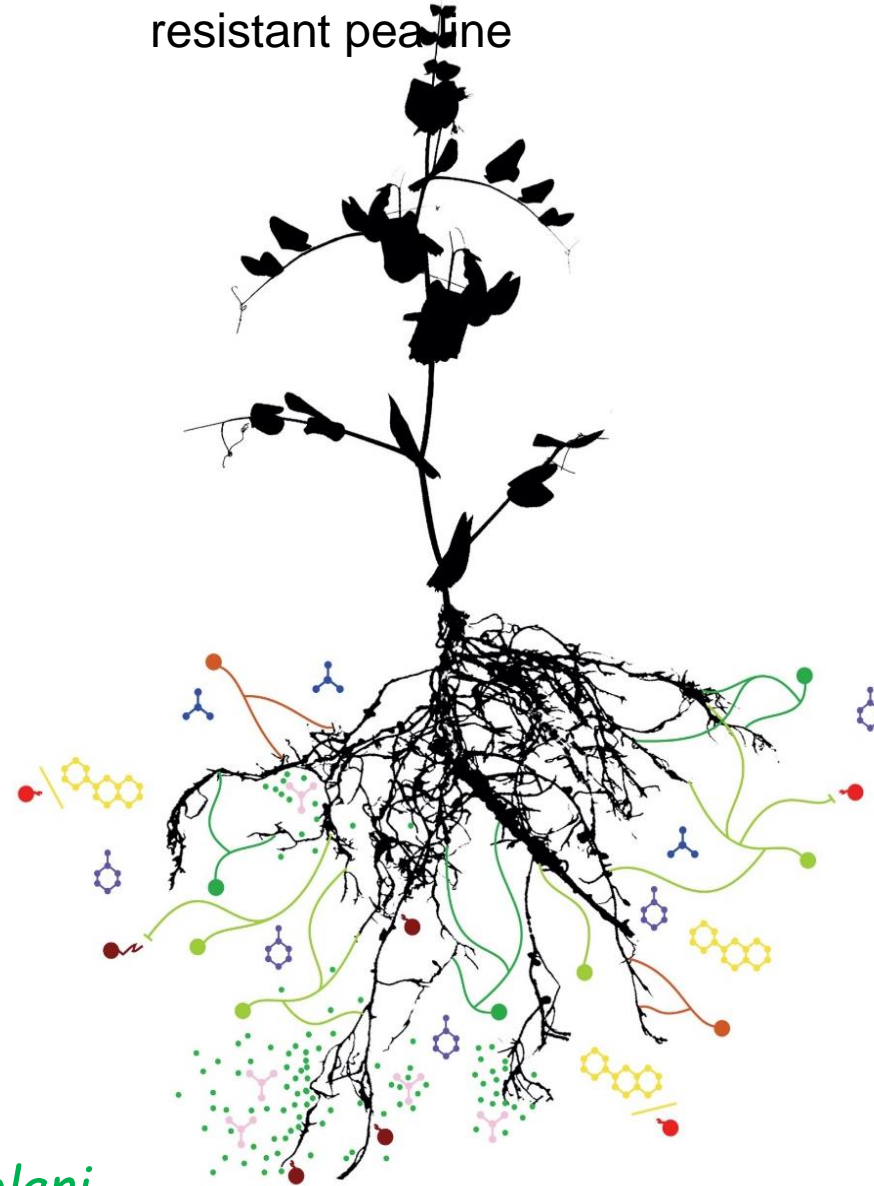
susceptible lines

susceptible pea line



+ *Fusarium solani*
- mycorrhizal fungi

resistant pea line



- *Fusarium solani*
+ mycorrhizal fungi

Microbe-assisted crop production - The future of sustainable farming

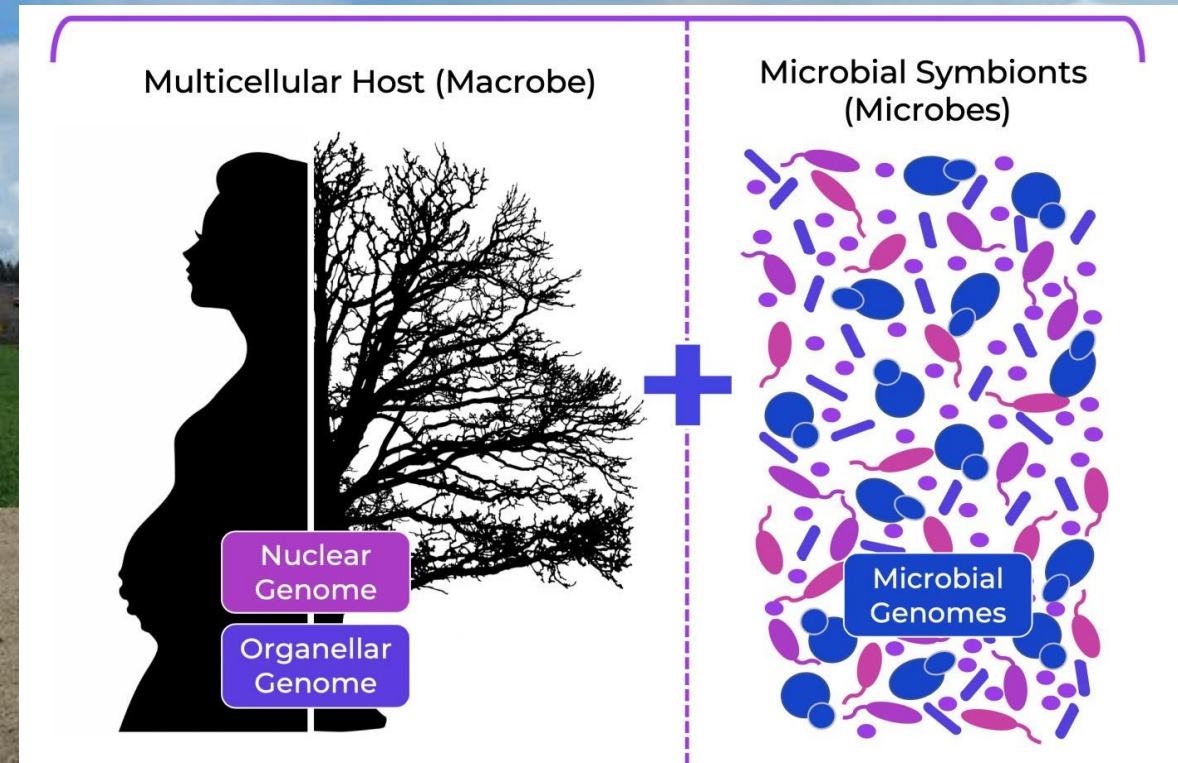
Microbial markers for plant health

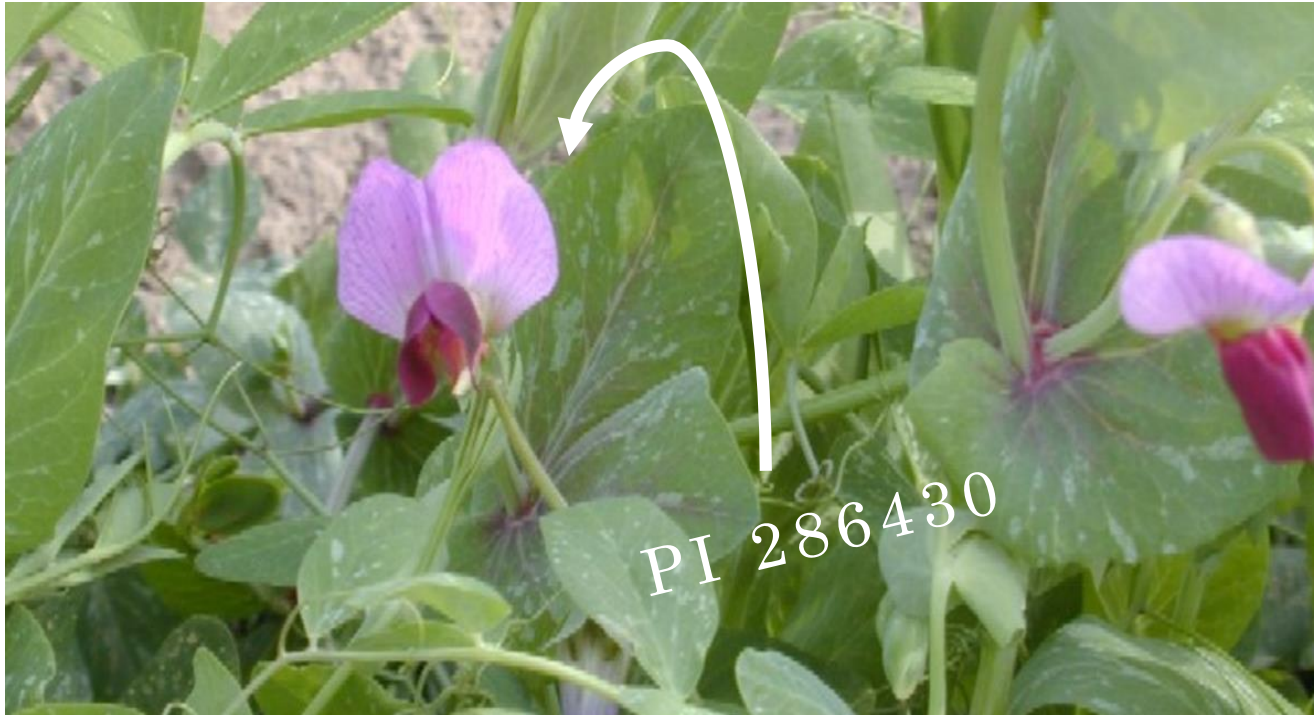
Breeding for beneficial plant-microbiota interactions

Inoculations of specific microbes

Agricultural practises to promote healthy microbiomes

HOLOBIONT





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