

Implementation of protocols under controlled conditions : study of biostimulants efficacy

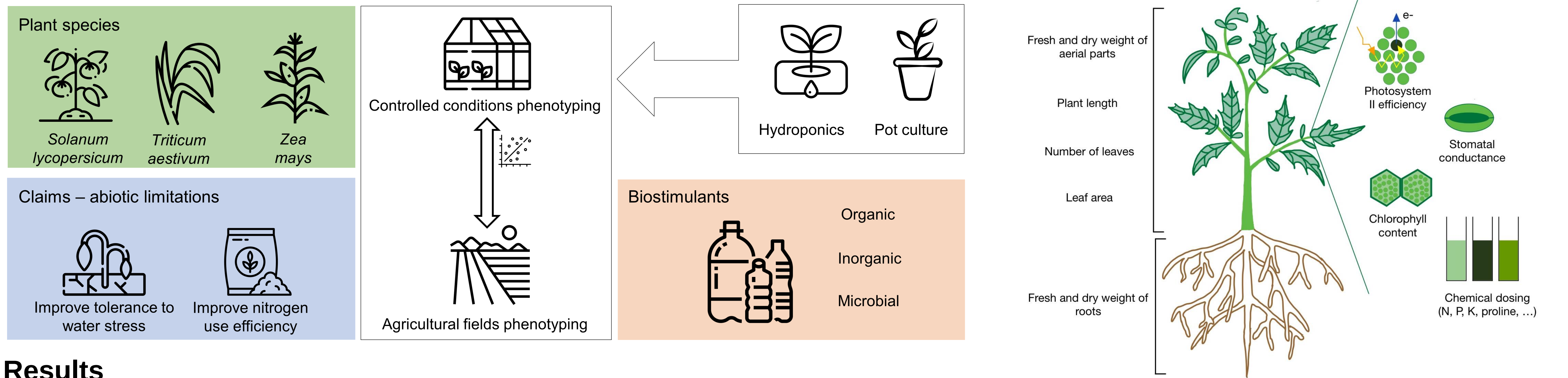
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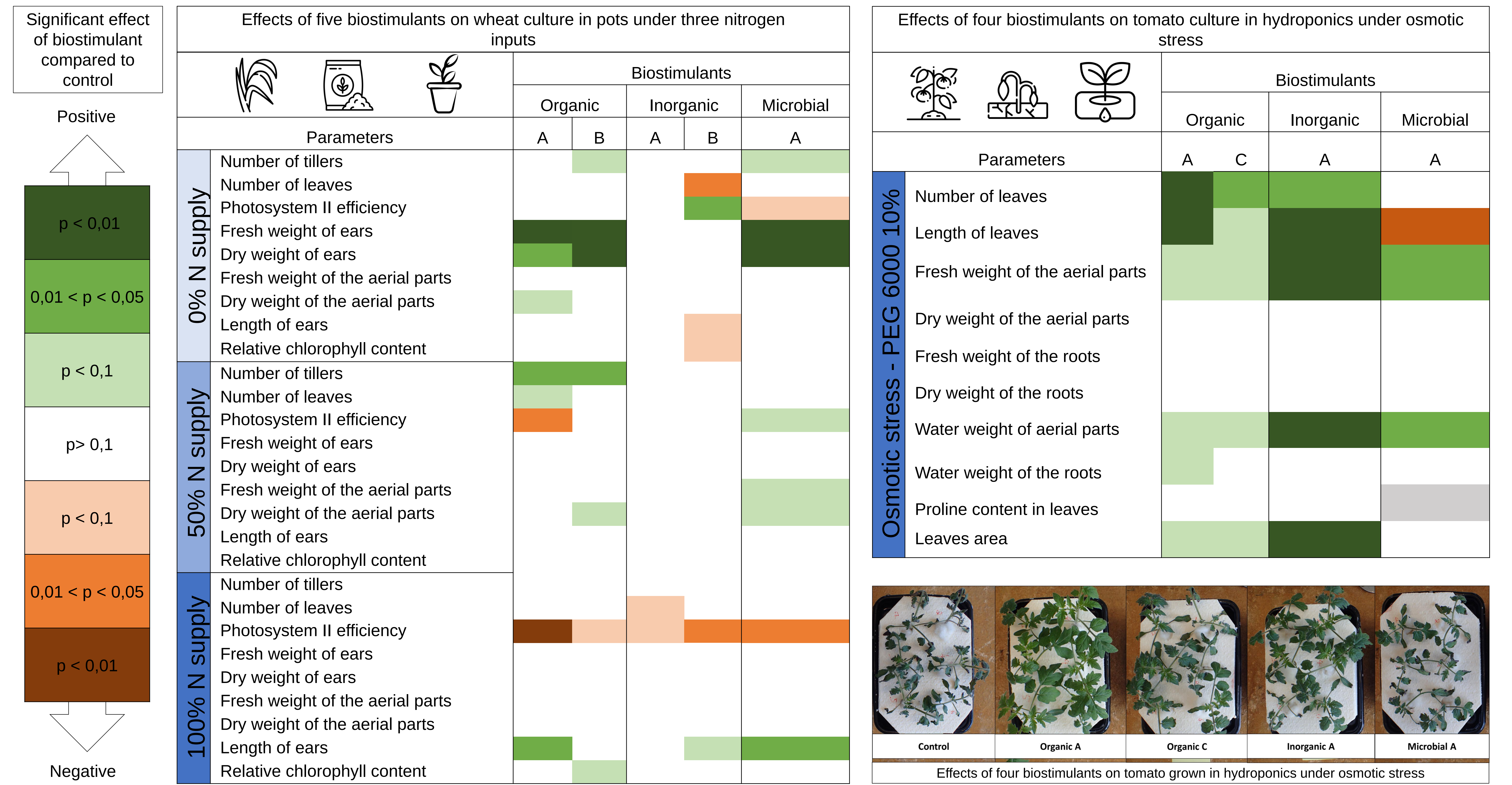
Context and objectives

Many biostimulants are currently introduced into the agricultural sector due to a transition to more sustainable cultivation practices⁽¹⁾⁽²⁾. However, their efficacy in the field is sometimes difficult to demonstrate due to many sources of variability that complicate their accurate evaluation⁽³⁾. The project “BioStimTest” attempts to design new efficacy screening methods relying on phenotyping under controlled conditions and to evaluate their predictions against trials established in agricultural fields.

Material and method



Results



Conclusions

- Here we present results under controlled conditions that reveal positive effects of the tested biostimulants on morphological and physiological parameters
- Effects varied according to the type of stress, the plant species, the culture system and to the tested biostimulant
- More positive effects of biostimulants were obtained under higher abiotic stresses
- Results under controlled conditions need to be correlated with those in field

Perspectives

- The mode of action of these biostimulants will be investigated
- Lot of endophytic bacteria have been identified as PGPB. Could the effect of biostimulants be related to changes in endophytic bacteria communities⁽⁴⁾⁽⁵⁾⁽⁶⁾?

References

(1) Calvo *et al.*, 2014 doi : <https://doi.org/10.1007/s1104-014-2131-8> (4) Luziatelli *et al.*, 2016 doi : [10.17660/ActaHortic.2016.1148.5](https://doi.org/10.17660/ActaHortic.2016.1148.5)

(2) du Jardin, 2015 doi : <https://doi.org/10.1016/j.scienta.2015.09.021> (5) De Andrade da Silva *et al.*, 2020 doi : [10.1101/2020.07.18.210427](https://doi.org/10.1101/2020.07.18.210427)

(3) Li *et al.*, 2022 doi : <https://doi.org/10.3389/fpls.2022.836702> (6) D. De Hita *et al.*, 2018