



Phenotyping of soybean phenology to temperature and photoperiod

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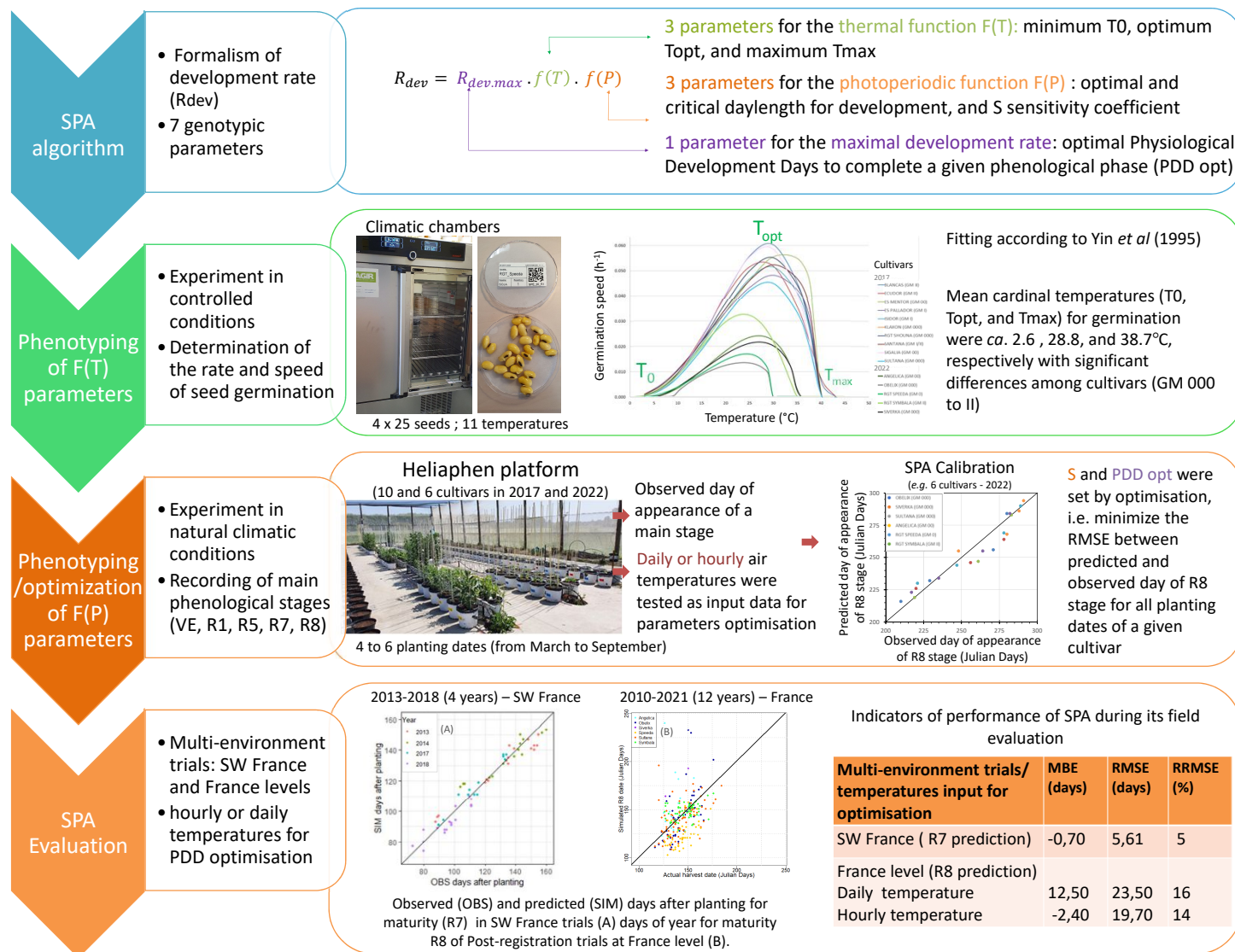
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Background & Aims

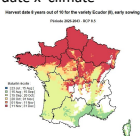


Improving soybean production in Europe under climate change needs a good prediction of cultivar phenology under different temperature and photoperiod conditions. For that purpose, a **Simple Phenology Algorithm (SPA)** was developed (Schoving et al., 2020). Before being applied, SPA requires the calibration of 7 genotypic parameters. Therefore, a **simple phenotyping method** was designed and set up under natural and controlled conditions to determine these parameters.



SPA Application

e.g. Areas suitable for a soybean cultivar x sowing date x climate



Conclusion & perspectives

A simple cultivar phenotyping method was designed and applied on a first set of 15 cultivars commonly grown in France. The optimization of the PDD plant parameter from hourly temperature values instead of daily values improved the prediction of phenology by SPA. This approach - simple cultivar phenotyping and photothermal algorithm - is currently evaluated on several grain legumes to design more diversified and agroecological cropping systems.

References

Schoving C et al., 2020. *Frontiers in Plant Science* 10: 1755

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