

Azodyn-Pea, a crop model to adapt pea crop to climate change

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Agroécologie — Dijon— Unité de Recherche

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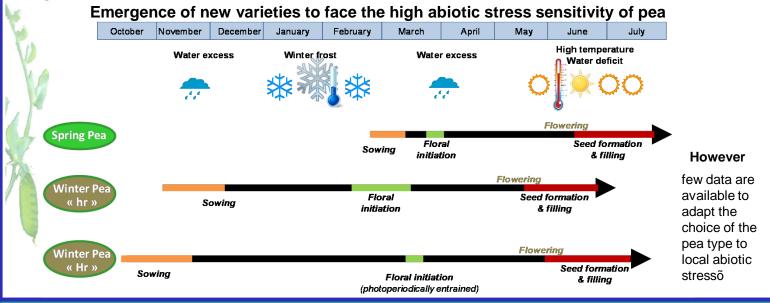
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Ontext Climate change in Europe increases the unpredictability of both frequency and impact of abiotic stresses on crops while they are a major cause of recent yield stagnation and projected decline.

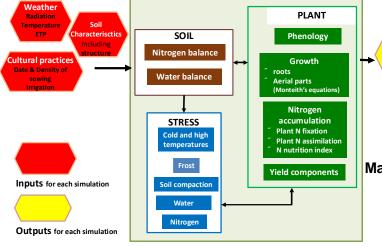
Pea (Pisum sativum L) is an important annual legume crop grown in temperate regions for its high seed nitrogen concentration and environmental benefits



Azodyn-Pea, a dynamic crop model to study the current and future performance of the pea crop cultivars in various French regions with contrasted climates

Abiotic stress

Soil



Azodyn-Pea simulates, at a daily step and at the plot scale, the effect of different abiotic environmental variables on yield and grain protein content formation. It integrates relevant and measurable varietal parameters representative of the three pea types

Main varietal parameters representative of the three pea types

- Durations of the development stages
- Maximal seed weight of the genotype
- Frost resistance and acclimation rate

Azodyn-Pea was implemented into the INRA modelling platform RECORD using the VLE software in order to optimize its use. It was developed in the line of the family of model %Azodyn+(including wheat, barley and

oilseed rape crops).

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Perspectives

Azodyn-Pea will be used to:

► Assess the performance of existing varieties of the three Current Opinion pea types over ten past years in different regions, in order to identify which type best suits to each environment (soil x climate)

► Explore novel combinations of plant traits in order to design ideotypes adapted to future climate and contribute to the development of new varieties within each type.





Conference

P1.115