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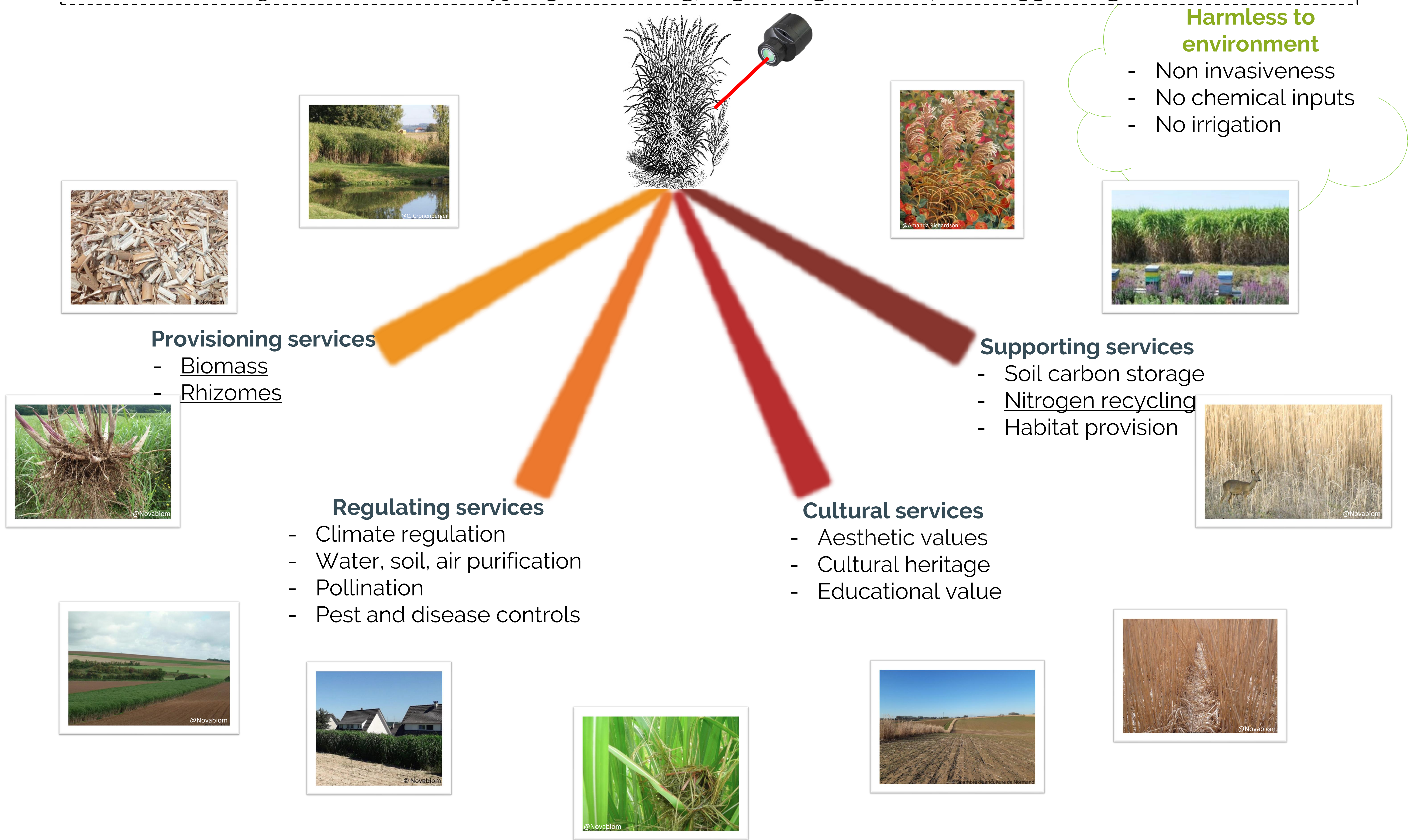
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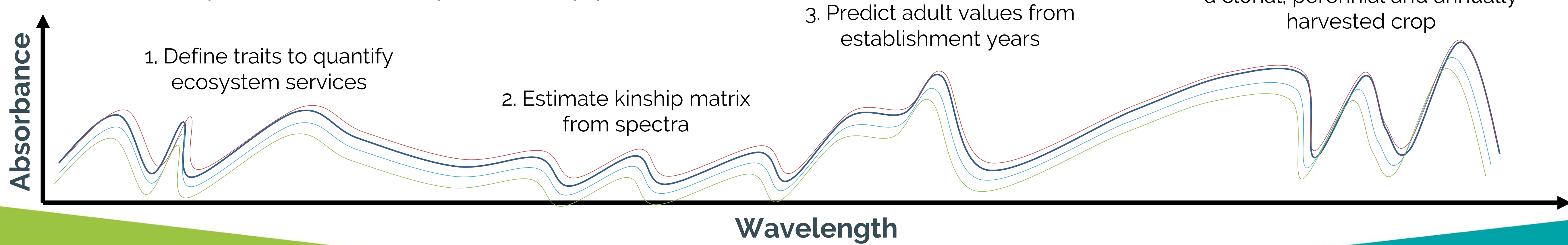
Development of phenomic selection for multifunctional purposes associated to biomass and the valorisation of ecosystem services in *Miscanthus sinensis*

Miscanthus sinensis is one of the two parents of the interspecific *Miscanthus x giganteus* clone that is widely cultivated worldwide. It is a crop **of growing interest in the past few years** for its low input requirement and its multifunctional uses. Initially considered as an horticultural crop, it is now grown for biomass production to convert in litter, combustion and biomaterials production. With the increased urge to mitigate the climate change, miscanthus is a key crop to **decarbonate French agriculture** considering all its ecosystem services.

Ecosystem services definition: All crop traits that have positive impacts on the crop environment while producing biomass. These services can be categorized into four main types: **provisioning, regulating, cultural, and supporting services**.



Phenomic selection replaces genetic data by near infra-red absorbance spectrum (NIRS) in prediction pipelines:



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