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Accumulation of grape metabolites is differently impacted by water deficit at the berry and plant levels in new fungus disease-tolerant genotypes

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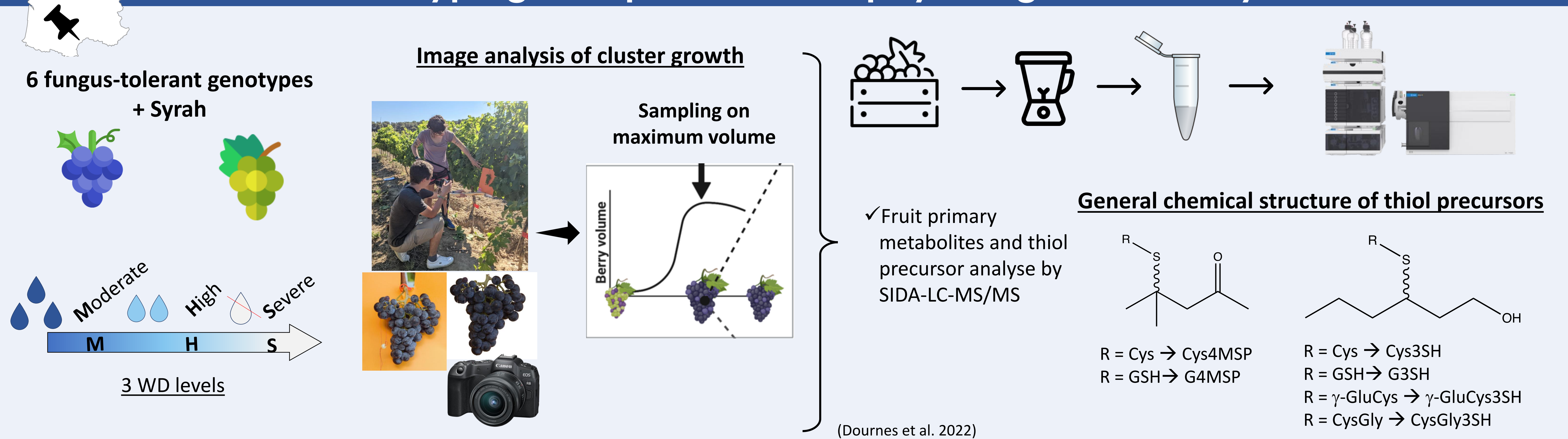
Context

- New fungus-tolerant grapevine varieties appears as promising solution to reduce chemical input.
- They also constitute an option to adapt plant material to future climatic conditions, as water deficit (WD)
- WD is known to impact on the regulation of primary and secondary metabolites accumulation
- Thiols (3SH and 4MSP), are powerful aromatic compounds involved in the specificity of varietal wines.
- Yet, little is known about the effects of WD on the thiol aromatic potential of new varieties.

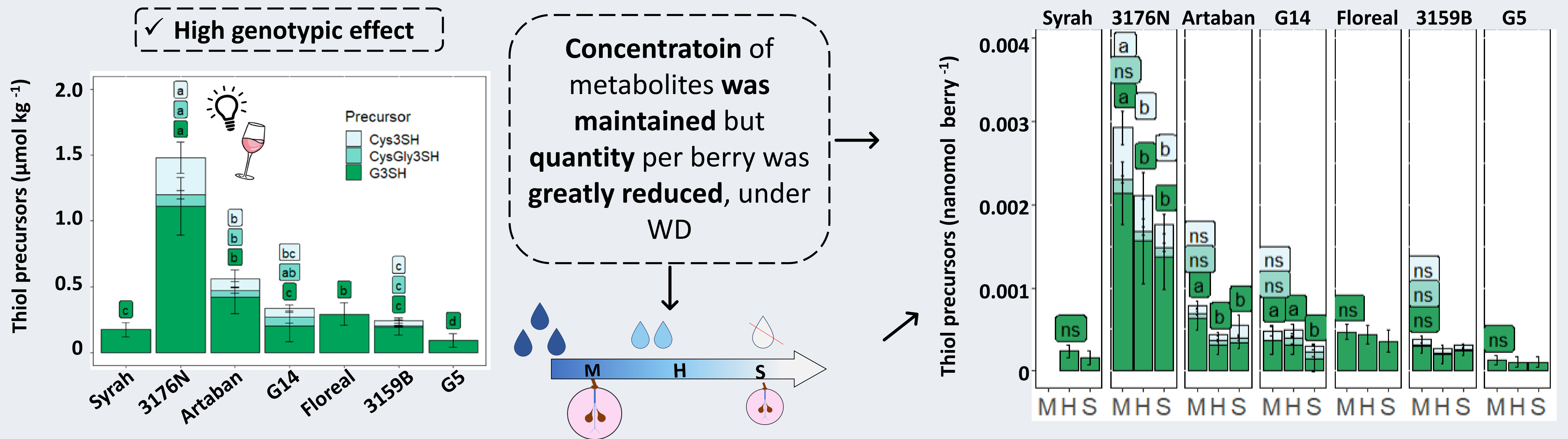
Objectives

- Study the impact of drought on thiol precursors accumulation in fungus-tolerant genotypes' grapes
- Evaluate the metabolic trade-offs between thiol precursors and primary metabolites

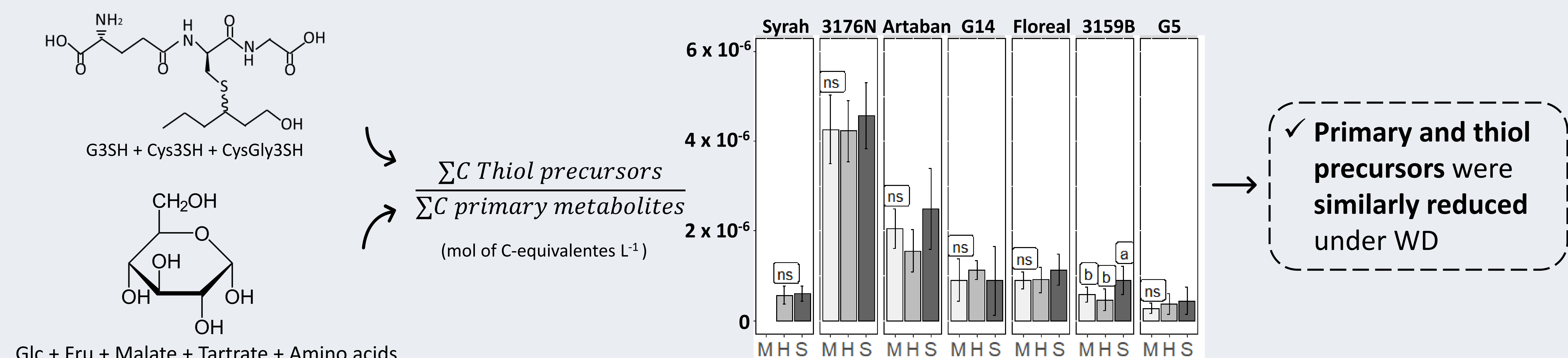
Phenotyping thiol precursors at physiological maturity



RESULTS: « THE SIZE OF THE BERRY MATTERS »



“ Does WD modify the quantity of C allocated to primary and secondary metabolites? ”



Drought reduces the production of metabolites per fruit & plant without increasing thiol compounds in the grape

Next steps: Perform under controlled environment to target specific WD levels and study the thiol precursor levels at the single berry level