



ECOPHYSIOLOGY AND NUTRITION OF COCOA

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Abstract

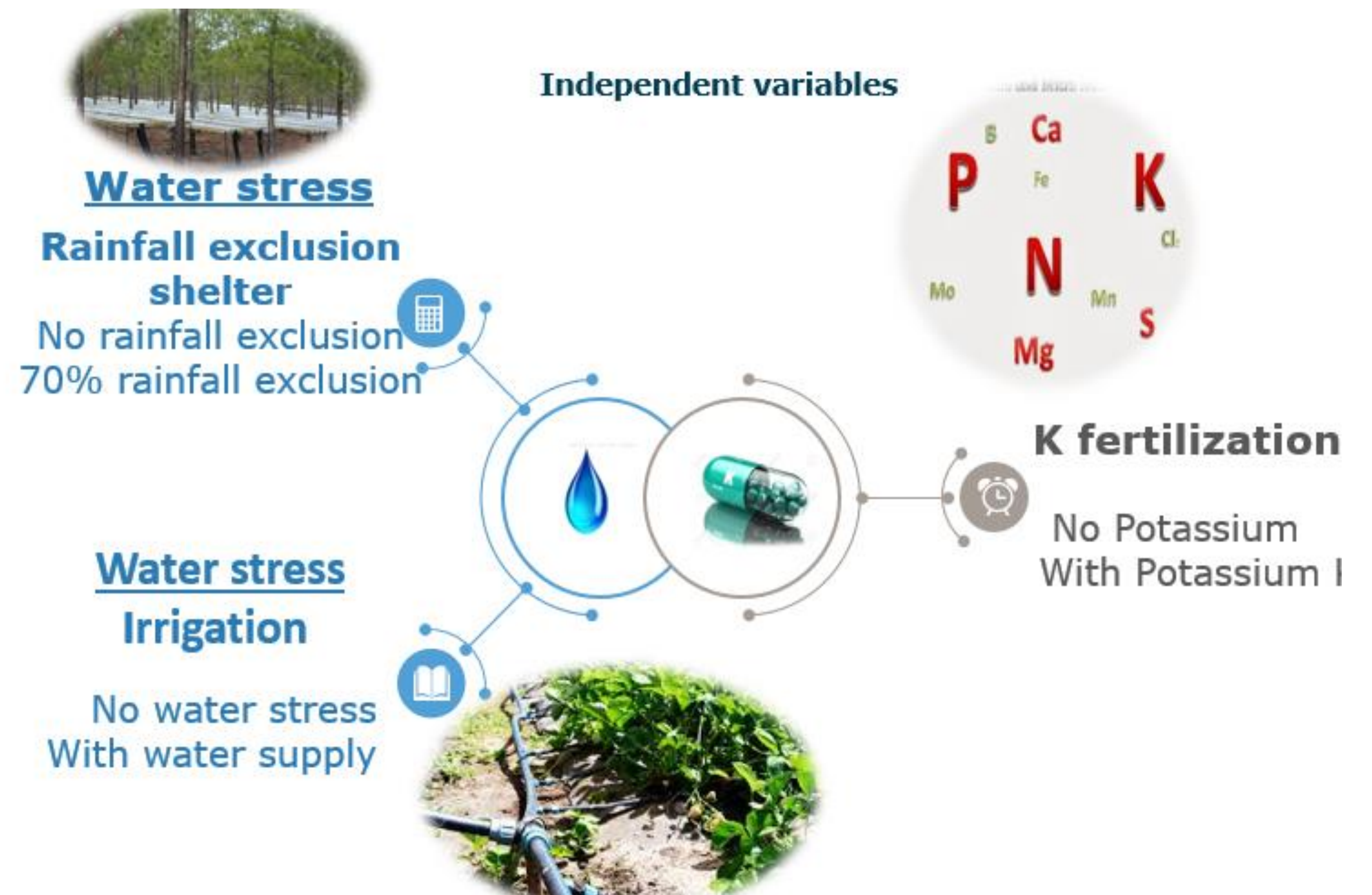
Due to climate change, cocoa is susceptible to suffer from environmental stresses such as drought stress during its development and each seasons. This mechanism implies water deficit that induces different internal responses (Balasimha, 2011). Thus, the main objective of this study is to assess physiological responses of cocoa to different levels of potassium treatments under drought stress in view to identify involved interactions.

Keywords: Soil fertility, K, drought

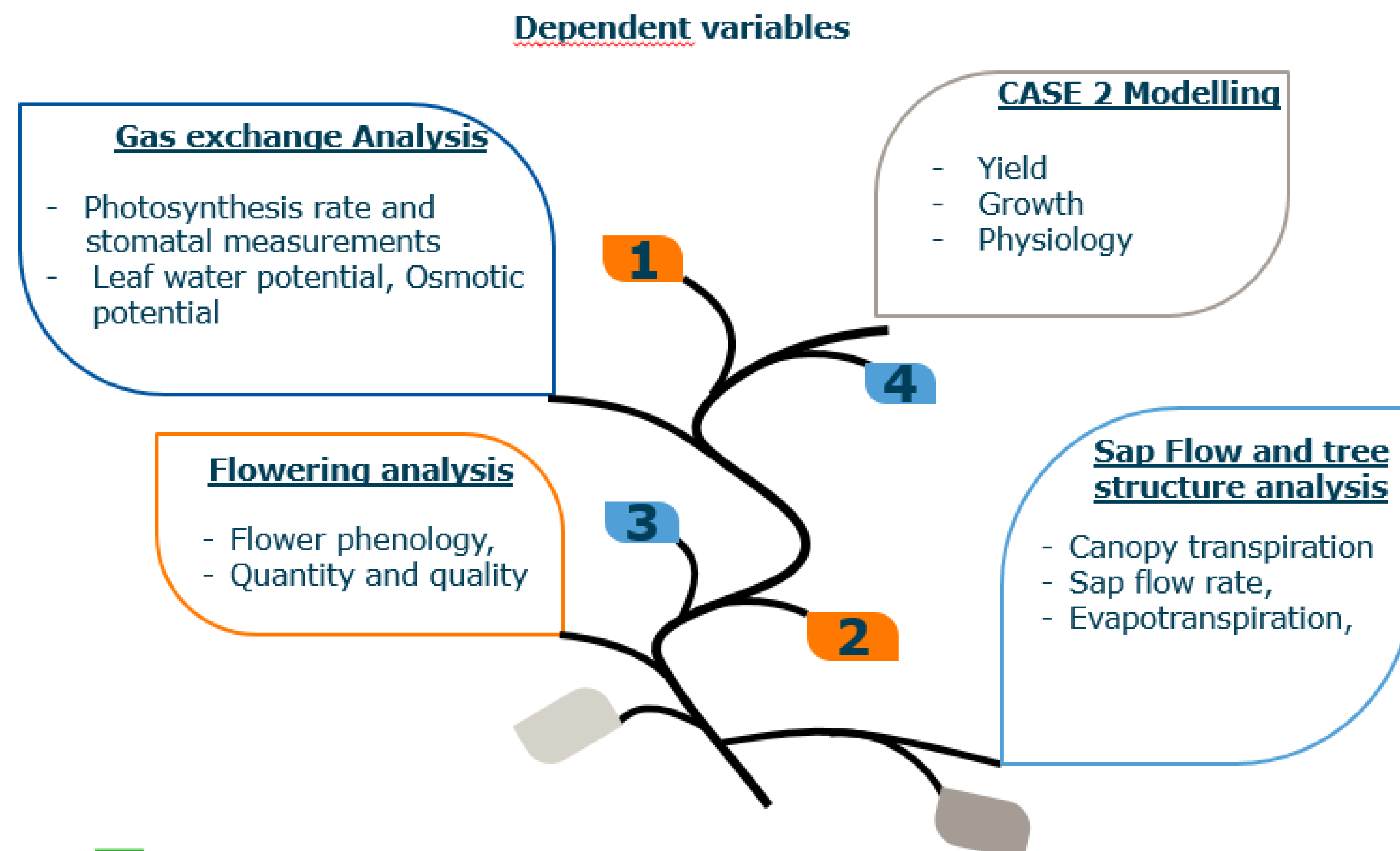
Objectives and Methods

- 1- To assess cocoa photosynthetic responses to water stress under K treatment,
- 2- To examine water status of cocoa tree in response to water stress and K supply,
- 3- To elucidate the implication of K on drought resistance of cocoa flowering induction, fruit development and setting,
- 4- To model and simulate cocoa yield and growth based on above mentioned drought-K interactive effects

Treatments



Measured variables



Discussion

- Mature trees will be considered
- Farms are located within 2 agroclimatic zones
- Impact of soil water deficit and soil K nutrition on flavour quality of cocoa beans
- The potential cocoa physiological responses under both experimental water availability treatments will be simulated.
- The first test of drought mitigating effects of K application.
- The first full assessment of photosynthetic and hydraulic responses to drought and K in cocoa
- Assessment of existing correlation between sap flow and transpiration within cocoa tree under water deficit

References

Balasimha, D. (2011). Towards understanding the physiology of cocoa (*Theobroma cacao* L.). Journal of Plantation Crops (India).

