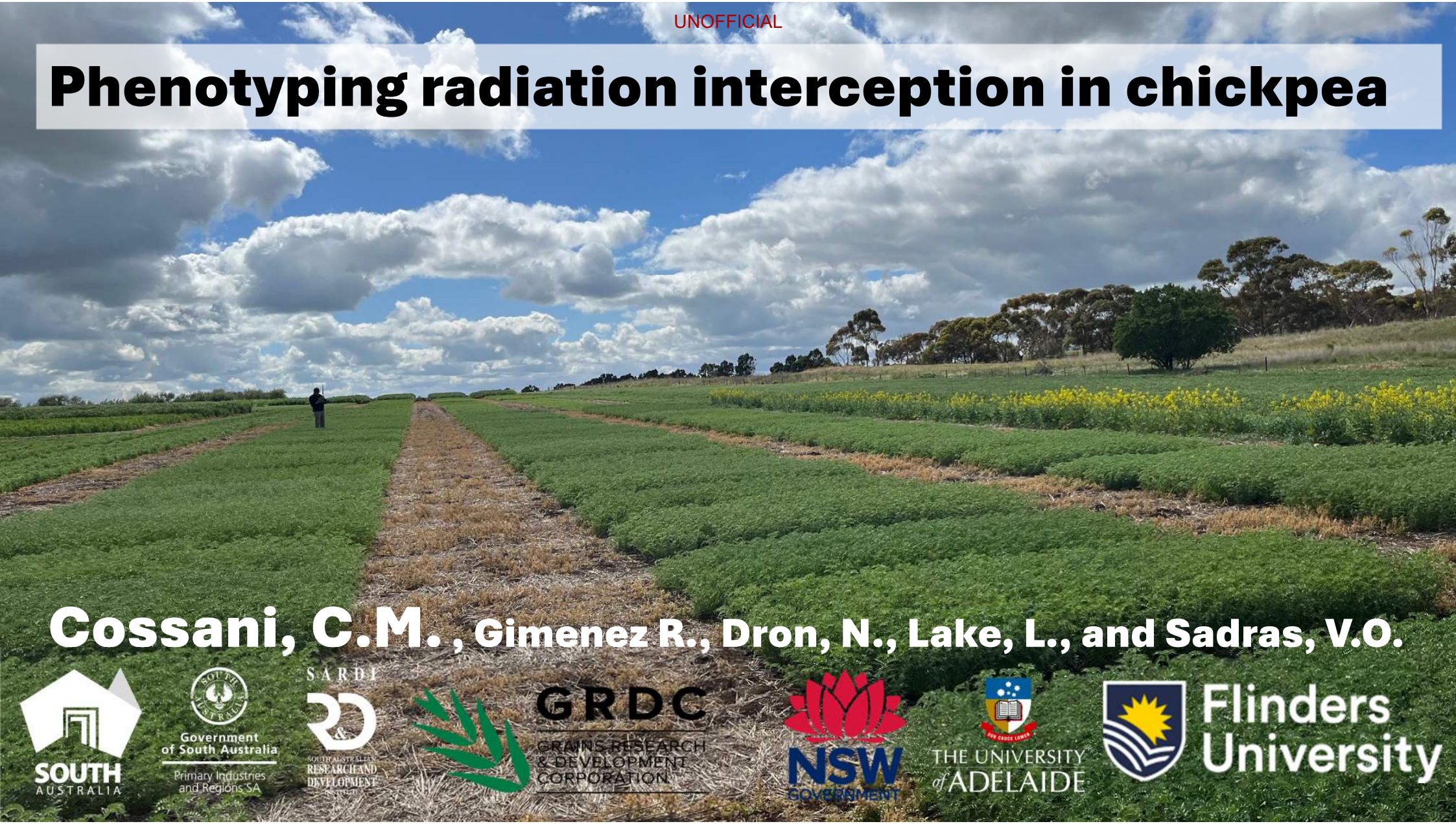
Phenotyping radiation interception in chickpea



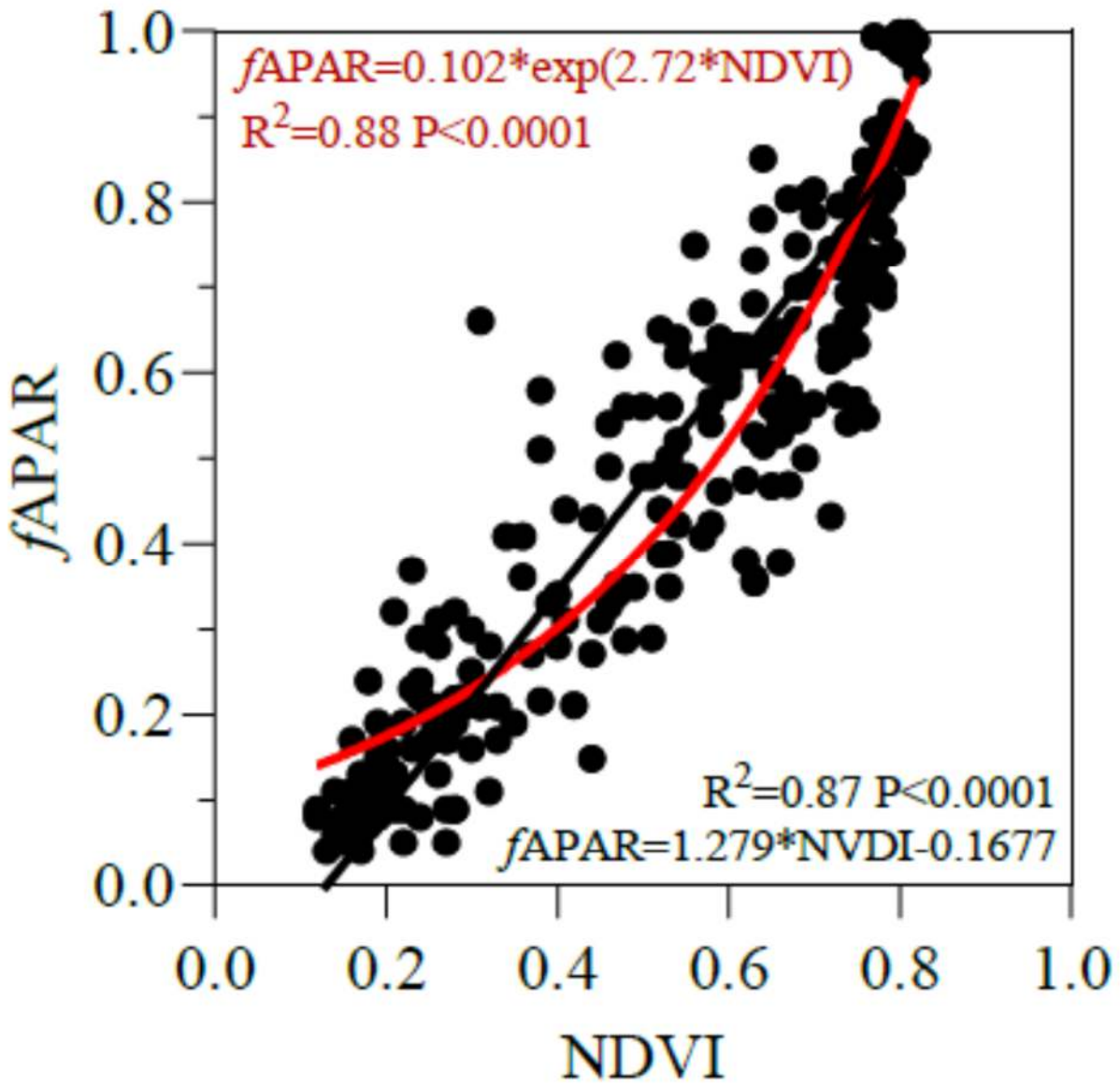
Cossani, C.M. , Gimenez R., Dron, N., Lake, L., and Sadras, V.O.

To develop a phenotyping method for estimating *f*APAR and related traits based on NDVI for chickpea

A database from field trials where sources of variation were season, sowing date, cultivar and crop ontogeny (272 plots).

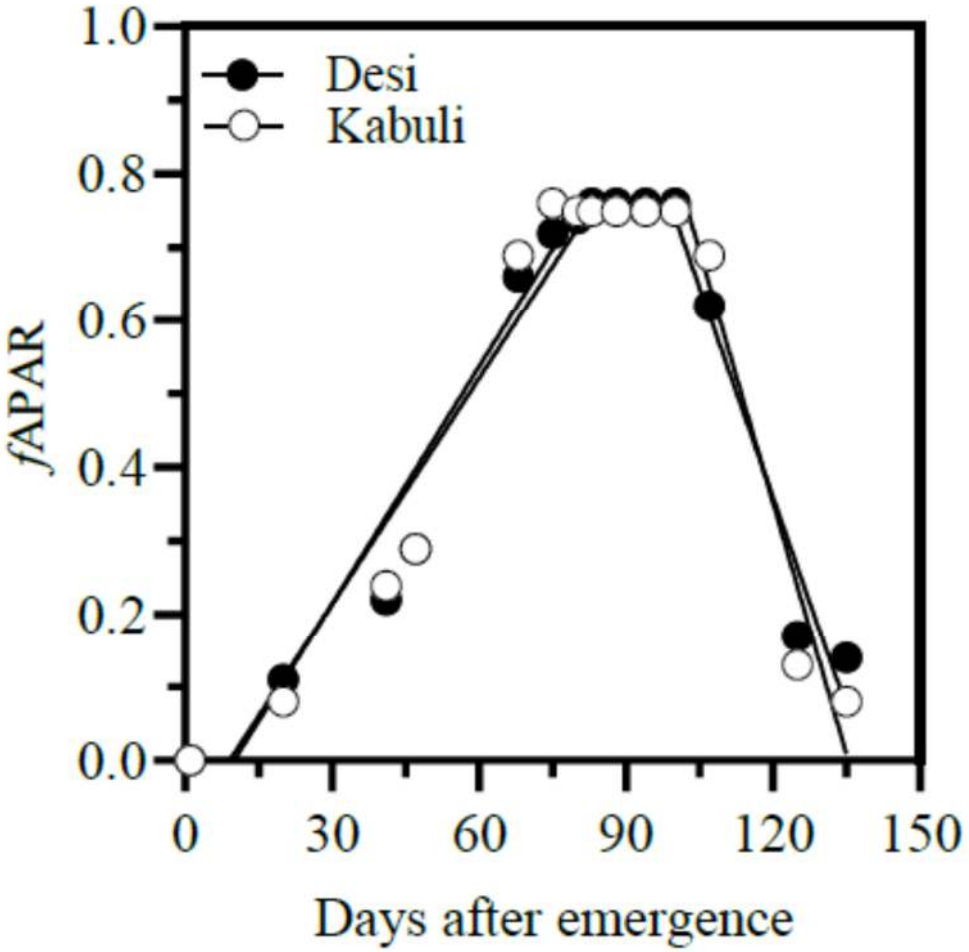
We simultaneously measured NDVI at ground level and *f*APAR in plots in Kapunda (SA) from early vegetative to advanced reproductive stages during 2022 and 2023

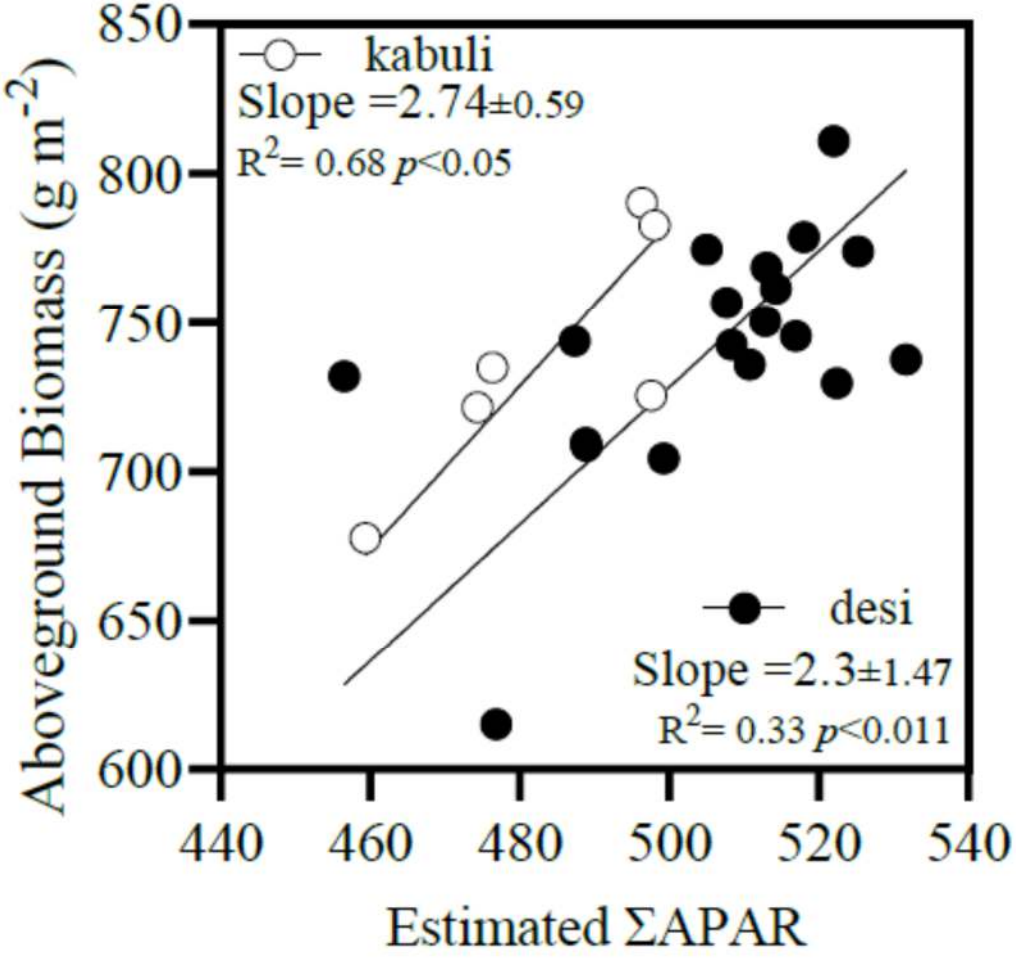
We used an historical set of 25 lines to estimate intercepted radiation related traits (*f*APAR, RUE)



Exponential and lineal models were fitted to estimate *f*APAR delivering similar results

What did we use the methodology for?





Take home message

- **Our method allowed us to quantify intercepted radiation during the growing season from early to late stages.**
- **Estimations of physiological traits of importance for yield potential and heat stress adaptation such as ΣAPAR and RUE were done in historical lines.**
- **Incorporating RUE and ΣAPAR in breeding programs could contribute to improve genetic gains for high yielding and heat stress environments.**
- **Our methodology can be upscaled to remote sensors such as drones or satellites (MODIS, Sentinel-2) contributing to monitor intercepted radiation associated traits.**
- **Upscaling this methodology could contribute to assess chickpea biomass at regional scales.**

Questions?

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