

CoffeeRES – Exploring new sources of coffee resistance to leaf rust (*Hemileia vastatrix*)

ABSTRACT | Coffee leaf rust, caused by the biotrophic fungus *Hemileia vastatrix* (Hv), is the most important disease of *Coffea arabica*. This project aims to apply an integrative approach to explore a potential new source of coffee resistance to Hv, dissect host resistance mechanisms and provide tools for rapid and easy selection of resistant genotypes. The Kawisari hybrid (*C. arabica* x *C. liberica*) derivative (CIFC 644/18), recently used as resistant donor in breeding programmes in India, was selected to characterize its resistance by integrating cytology, next generation sequencing by Illumina, and RTqPCR gene expression analysis. Combining all data, we expect, as an ultimate goal, to identify biomarkers putatively linked to coffee resistance, which will be tested on other coffee genotypes with large spectra of resistance to Hv, as a future useful tool for marker assisted selection. Sequence information will be made publicly available for future projects on coffee and other crops.

REFERENCE | PTDC/ASP-PLA/29779/2017

DURATION | 30-12-2019 to 30-06-2023

GLOBAL FUNDING | 239.025,80 EUR

FUNDED BY | Fundação para a Ciência e a Tecnologia

LEADING INSTITUTION | Instituto Superior de Agronomia

PARTNERS | FCUL (BioISI), ICETA/CiBio-InBIO

PRINCIPAL INVESTIGADOR at ISA | Maria do Céu Silva