

FOOD SAFETY



THE GENOMICS OF RICE AND ADAPTIVE RESPONSES TO THE ENVIRONMENT

This research area involves the [DIADE](#) (IRD, University of Montpellier) and [LGDP](#) (CNRS, UPVD) units. Both laboratories have a great deal of expertise in the genomics of rice and worked on the first complete genetic sequencing of Asian cultivated rice (IRGSP, 2005).

Since the Nipponbare variety was sequenced, analyses have expanded to include other wild and cultivated species of the *Sativa* group, gradually covering the whole *Oryza* genus (IOMAP Project), and new levels of variability have been understood (transcriptome, small RNAs, epigenetics, etc.). New research techniques can also be used to more effectively study intraspecific variability, particularly the intraspecific variability of cultivated species. This way, useful genes can be more easily identified and the way in which they work understood at the scale of the whole genome.

The teams have extremely extensive resources (original sequencing data), as well as data which will be acquired during the course of the various projects currently under way. More effectively sharing the teams' molecular resources means that these joint projects are an opportunity to study them more effectively from a methodological and analytical perspective, as well as looking into how they can be used. Their utility can be identified and researchers end up with a better understanding of the ways in which rice adapts, together with its response to the environment.

These projects are a key aspect of the partnerships that the [DIADE](#) unit has with various southern institutions and laboratories (the [LMI](#) in Vietnam, Senegal, Burkina Faso), the international CGIAR centres that form part of the CRP GRiSP in which the [IRD](#) and [CIRAD](#) (Centre for Agricultural Research and Development) are involved. These projects have also resulted in generic biological resources (recombinant populations, introgression lines, mutants, etc.) which are also very useful for genetic studies and for discovering genes of interest.



FOOD SAFETY, POVERTY AND REGIONAL DEVELOPMENT

Current projects include a research and training programme for PhD students and young researchers involving ten or so members of [ART-DEV](#) (geographers, economists and political scientists), together with a team of economists from the Federal University of Rio (the [CATP](#)). This project is funded by the Cafep-Cofecub (2013-2015). This initiative is in addition to the IRD's other initiatives and schemes which focus on these areas in Brazil.

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