

International Joint Laboratory Patho-Bios, an efficient observatory of Plant Pathogens in West Africa in the context of climate change

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The International Joint Laboratory (LMI) entitled observatory of Plant Pathogens in West Africa: Biodiversity and Biosafety (LMI-Patho-Bios) has been formally launched in Burkina Faso on the 30th January 2014. LMI-Patho-Bios was initiated by the national research institute of Burkina faso, “Institut de l’Environnement et de Recherches Agricoles (INERA)” and the French Research Institute for Development (IRD) which have signed a memorandum of understanding to drive a five years research project on bio surveillance of plant pathogens. LMI-Patho-Bios is established at INERA on two sites. It is mainly located at Kamboinsé research station of INERA (Ouagadougou) with a secondary location at Farako-Ba research station (Bobo-Dioulasso). LMI-Patho-Bios is interested on all important crops in West Africa including cereal crops (rice, maize, sorghum, millet), root and tuber crops (yam, cassava, sweet potato and potato), legume crops, vegetable crops and fruits. Its main goal is to develop a powerful open field observatory platform for bio surveillance in order to study plant pathogens interactions, diversity and evolution of pathogen populations in the context of global warming change which is expected to lead to major changes in plant diseases epidemic risks. Rice is used as model crop in such a platform which will significantly contribute for better understanding of the emergence of new plant diseases in a context of continuing climate change. Surveys will be made on common experimental plots located in different agroecological area in Burkina Faso and in West Africa to follow the dynamics and aggressiveness of pathogen populations. The major activities consist on diagnosis and characterization of plant bio-aggressors as well as epidemiology study of rice pathogens: viruses (RYMV, RSNV), bacteria (*Xanthomonas oryzae*, *Burkholderia sp*), fungi (*Magnaporthe grisea*), and nematodes (*Meloidogyne spp.*). LMI-Patho-Bios has also developed a strong regional network with several national research systems (NARS) and Universities in Sub-Saharan Africa (SSA) and contribute in the capacity building of researchers, research technicians, students and agricultural extension officers. Finally, the joint laboratory will train and promote knowledge dissemination to farmers and extension officers on good agricultural practices in terms of recognition and proper management of bio-aggressors. Furthermore, LMI-Patho-Bios will contribute to develop strategic technological tools to help African farmers to better adapt to, and to mitigate the effects of climate change.