

Establishment of a fully data-based and barcoded collection of mushroom pathogens for South Africa

**Dr E. van der Linde, Agricultural Research Council (SA), Plant Protection Research Institute
IBSG13052118229**

At a workshop of the Global Mushroom Disease Diagnostic Initiative (GMDDI) held in 2008 just before the International Society for Mushroom Science (ISMS) conference in Cape Town, it was decided to start building a collection of reference pathogen strains for the white button mushroom diseases worldwide. Prof Lise Korsten of the Microbiology and Plant Pathology Department of the University of Pretoria is involved in the policy-making of this initiative and a duplicate of this collection of more than 150 isolates from all over the world is already in her care. Students at UP have been studying various aspects of mushroom pathogens and their effect on the industry of South Africa for many years. Duplicates of most of these isolates are also contained in the National Collection of Fungi (PPRI). This research group, together with the National Collection of Fungi can and should play a major role in the expansion of this internationally acclaimed collection and development of diagnostic tools of mushroom pathogens to support not only the South African but also the global production of mushrooms in support of food safety and security. It is proposed that a database is established for this collection containing all available data including barcoding sequences. Sequence data will subsequently be used to set up a Matrix Assisted Laser Desorption Ionization Time of Flight Mass Spectrometry (MaldiTOF) database for quick identification of isolates in future. In this way, threats could be identified fast and effectively. All subsequent research using these isolates as basis will contain these collection data and will be referred to in subsequent publication of research. One popular and two peer-reviewed are envisaged. This project fulfils all five NRF strategic programme objectives, as well as the criteria for small grant applications