

Products

BRC_Tools: a software toolbox for managing genetic diversity for Quality Assurance purposes

BRC_Tools is a secure toolbox for managing all of a BRC's activities, both for governance aspects (planning, meetings, to do, training, etc.) and technical aspects (traceability of exchanges, customer tracking, etc.), according to the quality assurance standards in force for this type of structure (ISO 9001 or NF S 96-900). It brings together the functionalities of EDM (Electronic Document Management) for the document base, of a LIMS (Laboratory Information Management System), of stock management and CRM (Customer Relations Management).

AQ_Tools

This software module, independent of BRC_Tools enables you to manage all the points required by standard ISO 9001 or NF S 96-900, for document and training aspects, but also for equipment tracking and managing anomalies. This set of functions is rounded off by automatic provision of indicators enabling you to keep a precise track of your objectives.

Géné-PI

A software to help you determine the legal status of a biological resource (BR) and draw up MTAs. The MTA selection system requires at least 5 items of information, to suggest the contractual document best suited to your situation: geographic origin of the BR (entry into a list of countries, as per standard ISO 3166); date of introduction of the BR; type of protection relating to this BR; is the BR protected by Intellectual Property Rights (IPRs)? Is the entity a (co)holder of these IPRs? Does the BR meet the ITPGRFA criteria?

<http://www.cirad.fr/innovation-expertise/produits-et-services/logiciels/gene-pi>

Black box

Storage under controlled conditions, secure access... Once the legal and administrative formalities have been completed, your seeds are preserved in complete confidentiality and security. Thanks to this package, your seeds (working collections, material gathered under a research project or under development) have the benefit of our infrastructures and our procedures, for fixed-term preservation.

> Contact: crb-t@cirad.fr

Training

- ISO 9001 and NF 96-900 Quality Assurance – Principles and application;
- Launching a BRC under quality assurance – Procedures, approach and metrology;
- Information system of a BRC: using AQ-Tools;
- Breeding, preservation and distribution of tropical seeds as part of a certification procedure – training on-site or in Montpellier.

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VIP

TECHNOLOGY TRANSFER
AND DEVELOPMENT NEWSLETTER

Managing tropical seeds

Preserving, distributing, harnessing genetic resources, and managing access to them: that is the mission of biological resource centres. As part of its research activities or national and international partnerships, Cirad manages more than one hundred collections of genetic resources, primarily of plants (rice, cotton, sorghum, coffee, cocoa, rubber tree, sugar cane, banana, pineapple, fruit trees, etc.), i.e. in total more than 135,000 varieties from around 500 species. Remarkable for the diversity of the sources that they contain, these collections represent an extremely powerful selection assistance tool.

In Montpellier, CIRAD owns the Laboratory of Seeds and Genetic Resources (LSRG), which manages numerous collections of tropical seeds. Since January 2009, it has been distributing rice, sorghum, fonio millet, cowpea and peanut seeds in accordance with procedures to guarantee the traceability of the exchanged materials. Granted the IBISA label in March 2009 under the name Montpellier Tropical Biological Resources Centre (TBRC), it has also been certified under NF S 96-900 "Quality of biological resources centres" since September 2011.

To achieve these missions, a specific information management system has been developed. It is based on using barcodes and innovative computing tools, and on procedures meeting the requirements of the standards in force. Tested within the TBRC, this system has proven to be an efficient toolbox, which has gradually spread, and is now used within two types of community: the other French plant Biological Resources Centres [BRCs], and structures aiming for ISO 9001 style quality assurance management. To date, there are thirteen sites, hosted on eight servers and distributed throughout France (both Metropolitan and overseas territories), using one or several modules of this tool.

FOCUS

6200 seed samples were sent out in 2012 under Quality Assurance (traceability of plant material, introduction guarantee)

www.cirad.fr/innovation-expertise



cirad

LA RECHERCHE AGRONOMIQUE
POUR LE DÉVELOPPEMENT

Expertise, project and partnership

"To harness its varietal collections, Cirad has developed a project aimed at setting up a pilot BRC for rice. Initiated in April 2006, it led to certification of the Montpellier Tropical BRC in September 2011.

At the time of the launch of the "Rice pilot BRC" in 2006, there were no computing tools that could provide integrated management of the whole process.

We needed a software that offered the functionalities of electronic document management (EDM) for the document base, a laboratory information management system (LIMS), of stock management and

Customer Relations Management (CRM). So we chose to develop this tool ourselves. The modules developed were integrated as they were created, and user feedback on the functionalities and ergonomics enabled us to improve the software and file it with APP (Agency for the Protection of Programs) on 27 May 2011.

ISO 9001 certification, or a more BRC-specific certification (NF S 96-900), is based on a set of documents referencing the procedures implemented within the structure: the "operational" processes, directly related to the core business, and "support" processes. From 2006 to 2009, the quality management system was set up with the production of the documentation and with continuous improvement through indicators, dealing with non-compliant products, and corrective and preventive actions.

The technical team was reinforced by hiring three technicians. In March 2009, the TBRC was granted the IBISA label, and then following an audit conducted by AFNOR Certification in July 2011, the LSRG was the first crop science BRC to be granted NF S 96-900 certification."

Roland Cottin, Cirad

Web address: <http://golo.cirad.fr/>



RESEARCH issues

To facilitate management of information relating to batches of seeds preserved in the TBRC, there are two projects currently under study:

- the first relates to use of RFID technology (radio-frequency identification), enabling more reliable tracking of batch movements. This technology, already used in the large-scale retailing sector, is an evolution of the barcode currently used at the TBRC.

- The second is aimed at deploying mobile applications (tablets, portable acquisitions, etc.) in order to take advantage of geo-location, photography and *in-situ* data entry tools (fields, greenhouses, surveys, etc.), to supplement the current information management chain.

These two types of tool must be based on a computing structure that can be integrated into the current system based on WiFi access and databases in client/server mode, to enable secure management of the data associated with our biological resources.

BRCs are the result of a long-term evolution of practices which have made for increasingly professional organisation of the activities of gathering, preparing, compiling, preserving and distributing biological resources. This evolution is a response to the growing demand for samples and associated data from players in fundamental and applied research.

Plant BRCs meet the requirements of transparency and oversight of these research activities, obligatory when they involve handling and using plant resources within the framework of international regulations (FAO International Treaty or ITPGRFA, Convention on Biological Diversity, Nagoya Protocol, phytosanitary regulations, etc.).

Services of the Montpellier TBRC

Introduction of biological material

The TBRC can introduce the tropical seeds that you need. The material must be free from intellectual property rights, but with all the requisite authorisations: material transfer agreement (MTA), minimum information about the material (name, source, etc.), usefulness of resource, etc.

Shipping biological material

For your seed shipments, your partners abroad must supply an import permit (if necessary), and an MTA for the transfer of biological resources. The seed samples will be transferred with the name of the requested accessions, their germination capacity and the quantities distributed. The maximum processing time by the TBRC is 20 working days from receipt of the requisite documents.

Transit

Transit concerns batches of your seeds to be sent to one of your partners. Our service only relates to the phytosanitary procedures, packing and sending the material.

The germination capacity analysis of batches may be conducted on request.

Phytosanitary certificate

In certain cases, a research unit may request TBRC to manage the phytosanitary certificate. It will contact the Regional Food Service (SRAL) in order to obtain this document on behalf of the unit. The unit must provide a list of the seeds to be sent, their origin and their destination, and all the documents required.

Breeding campaigns

As required, if we do not have sufficient quantity of the requested variety, it can be bred on our most suitable sites (Camargue, greenhouses on the Montpellier site, Guadeloupe).

ISO 9001/NF S 96-900 Quality Assurance Audit

In order to help you prepare for certification of your structure under one or both of these reference systems, our quality engineer can conduct a "trial" audit to help you identify any non conforming work, but also the strong points of your quality management system that you have put in place.

For these services, please send a written request to:

crb-t@cirad.fr

See also <http://golo.cirad.fr/>

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