



HAL
open science

Setting up of a multicomponent biological resource center for Agroecology at INRA (Dijon, France)

Christian Steinberg, Catherine Delaitre, Gérard Duc, Vivienne Gianinazzi-Pearson, Cécile Héraud, Philippe P. Lemanceau, Valérie Monfort-Pimet, Xavier Reboud

► To cite this version:

Christian Steinberg, Catherine Delaitre, Gérard Duc, Vivienne Gianinazzi-Pearson, Cécile Héraud, et al.. Setting up of a multicomponent biological resource center for Agroecology at INRA (Dijon, France). 12. International Conference on Culture Collections (ICCC12), Sep 2010, Florianopolis, Brazil. 1 p. hal-01137012

HAL Id: hal-01137012

<https://hal.science/hal-01137012>

Submitted on 6 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Title

Setting up of a Multicomponent Biological Resource Center for Agroecology at INRA (Dijon, France)

Authors

Steinberg Christian, Delaitre Catherine, Duc Gérard, Gianinazzi-Pearson Vivienne, Heraud Cécile, Lemanceau Philippe, Montfort Valérie, Reboud Xavier

Affiliation

INRA, Université de Bourgogne UMR 1229, CMSE, 17 rue Sully, BP 86510, 21065 Dijon cedex, France.

Key words

agronomical ecosystem, barcoding, legumes, soil-borne microorganisms, weeds,

Abstract

An innovative Biological Resource Center (BRC) including different types of plant and microbial resources is being created at Dijon (France) to study agro-ecosystems. This BRC aims at promoting technical aspects to preserve the diversity of organisms, to improve identification and characterization tools, to organize databases to merge taxonomic and ecological traits of organisms and to rise up the Quality Standard to provide biological resources on request following exchange of an MTA form.

The components are:

-Weeds are wild plants in agricultural areas. Weeds are extraordinarily diverse. For research purposes (life history traits, herbicide resistance research, seed identification), the collection includes c.a. 430 weed species (1100 seed samples mostly isolated from France) and seed specimens from c.a. 780 species to serve as references for species identification purposes. Additional seed collections include c.a. 1000 accessions from noxious weeds (containing herbicide-resistant plants).

<http://www2.dijon.inra.fr/bga/umrbga2009/spip.php?rubrique11>

-Legumes are strategic crops worldwide, both as sources of dietary proteins for humans and livestock, and to replace synthetic fertilizers as a source of nitrogen in the soil. The INRA-Dijon Grain Legumes Collection harbors 3 main legume species: pea, faba bean, and lupin spp. counting more than 1000 accessions per species including landraces, mutants and wild forms. These resources are the subject of genetic and phenotypic characterization permitting the definition of core collections and the development of association genetics strategies.

<http://193.50.15.18/legumbase/>

-Arbuscular mycorrhizal (AM) fungi are plant symbionts which provide ecosystem services to crops. The International Bank for the Glomeromycota (IBG) is a structure for conserving AM fungal biodiversity and registering well-defined isolates in an internationally-accredited database. The IBG in Dijon: 1) maintains a core germplasm reservoir of fungal diversity (45 accessions/250 cultures) on host plants, 2) supplies certified reference cultures to researchers, 3) develops molecular probes, 4) preserves commercial fungal lines for industrials, 5) provides technical training for users.

<http://www.kent.ac.uk/bio/beg/>

-see poster "MIAE : A collection dedicated to Soil Microbial Diversity and Environment".

<http://www2.dijon.inra.fr/umrmse/spip.php?rubrique47>