



EMbaRC, an european consortium of microbial resources centers for science and innovation

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EMbaRC



Microbes = first source of genes in the planet !
and also in our body.... EC program Metahit

FAO / Commission on genetic resources for food and agriculture
Rome, session oct. 2009, twelfth regular session

« **Agricultural production (plants and animal growth) depends heavily on μ org biodiversity; they provide also a broad range of beneficial services in food processing + emerging use in forestry and fishery sectors; some non beneficial »**



FAO, background study paper n°46

It is the historical mission of culture collections to organize the collection, the authentication, maintenance, distribution of strains of microorganisms

The use of certified materials from culture collections diminishes the costs from mistakes in cumulative research (Furman and stern, 2006) and decreases the search costs for finding appropriate materials (Visser et al., 2000)

Resources of high quality are crucial for high quality research

Situation in Europe until 2008 ?

Numerous collections (191 listed) in the field of agriculture, health, biotechnology, fermented food ...with a large biodiversity

One organization : « ECCO » European Culture Collections Organisation

24 countries – 66 collections – exist since almost 30 years

Stimulates exchanges between collections

Some projects MINE, CABRI, and electronic Catalogues

All the european patrimony is not well structured and linked;
moreover, collections do not cover 100% of the biodiversity described

2008 topic « microbial BRC » in the FP7.....strong wish of the commission

EMbaRC, European Consortium of Microbial Resource Centres

A project to make accessible, authenticated, and «complete», the
European microbial resources, to reinforce European research and
stimulate innovations

2009-2012 / 7 countries / 4,2 M€ /FP7 Infrastructure project

www.embarc.eu



EMbaRC collections



200 000 strains

Bacteria

Yeasts

Fungi

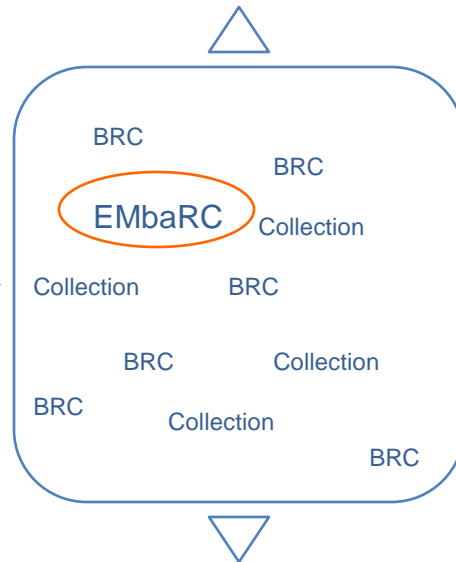
Virus

DNA

General aim of EMbaRC action

Networking activities
Transnational access
Joined research activ;

Make it recognize as
a key Infrastructure



Huge
Biodiversity
>>>

Input

Users

output

Science

Innovation

Improve ourself

No guarantee of access and long term preservation !



EMbaRC, concrete expected achievements from networking activities

- Harmonizing methods for strain identification and validation of type/reference strains
- Contribution to standards : ensure consistent quality of all european collection resources, make national standards emerging to the international level (from OECD best practices to ISO specific for BRC)
- Propose a Code of Conduct for Biosecurity : help BRC to avoid any direct or indirect contributions to biological weapons
- One-stop-shop to the EU collections via a web portal for users

EMbaRC, concrete expected achievements from networking activities

- Disseminate largely the call for access for transnational access
- Broaden the coverage ratio nb of species kept in BRC / nb species described / strategy increase deposit, holding (talk by Erko Stackebrandt in this session)
- Integrate orphans or endangered or emerging collections into the EMbaRC community, share project results via
 - Best practices workshops (Turin, may 2011)
 - Targeted training programs
 - Outreach activities (talk by David Smith in this session)
- New ways for Self-sustainability of EU BRCs, business model*

Workshop in Italy next year

University of Turin – 14 & 15 June 2011

“Secure the future of microbial resources at a laboratory scale”

Main target: laboratory research collections.

Aim: Change their mind ! make sure that all lab will be addressed a set of criteria, they need to know what to do (WFCC guidelines); foster them to establish a collection on the right way**.

Preprogram :

- i) Reasons for securing (added value for European Community, for laboratories, etc.; obligation coming from public grants, authors' obligation; definition of endangered collections...)
- ii) Collection types (to be transferred, identified, non identified, endangered...)
- iii) Minimal data set to secure
- iv) Taxonomic inventory/methods
- v) Methods of preservation
- vi) Legal issues, ownership in case of transfer

More info soon on www.embarc.eu

Register to the project newsletter to receive up-to-date information, ask for subscription to embarc@rennes.inra.fr



EMbaRC, concrete expected achievements from joint research activities

Strain & DNA preservation: longer shelf-life

European microbial DNA bank network to harmonize extraction and DNA characterization protocols, and to optimize the process of DNA sample storage

Exploring new methods for accurate species identification

New molecular markers (pro and eucaryotes) from genome data or high through , and mass spectrometry.

Talk by Cleidir Santos in this session and talk by Dominique Clermont session 4C



Dissemination of the results,
via Publications

EMbaRC

Transnational Access Grants

Talk by Philip Desmeth...



Thank you for your attention



New giant Microbes « teddy bears »...