

## Report

### IMAGE Dialogue Forum 2016, Belfast

The first IMAGE Dialogue forum was held on the 28th of August 2016 at Riddel Hall, Queen's University, Belfast, Northern Ireland, in association with the ERFP general assembly and the EAAP conference. Stakeholders with wide-ranging experience joined the IMAGE partners to discuss their views on the management of gene bank resources. Amongst the 51 participants were ERFP National Coordinators, scientists, government officials, as well as representatives from industry and NGOs. (See list of participants). The event was hosted and moderated by Waltraud Kugler, SAVE Foundation, Switzerland.

IMAGE leader Michèle Tixier-Boichard, INRA, France, introduced the objectives and approaches of IMAGE to the audience. Up to now there are 25 gene banks for animal genetic resources identified within Europe. Some are governmental with the main purpose of conservation, some are research gene banks, which are not really connected. Knowledge is needed to better involve gene banks in animal breeding. IMAGE aims to improve the connections between gene bank managers and users. A demonstration program for introgression in chicken will show possible ways of use of gene bank material. Priorities for cattle genotyping will be identified. Populations will be inventoried with available time series in gene banks. Besides the expected achievements, Michèle Tixier-Boichard pointed out the importance of the involvement of stakeholders from the very beginning to be able to shape the whole process of the project, instead of simply presenting them with completed results at the end of the project. Open questions are for example:

- Which reproduction technology would be accepted/rejected by which stakeholder, and why?
- Data sharing: which data should be shared and in which way? Reasons for not sharing data?
- How and in which field can gene banks help you in your work?
- Expectations for case studies or additional analysis like sequencing, genotyping?
- Are there expectations on training programs?

Sipke-Joost Hiemstra, Wageningen University, Netherlands, ERFP chair and national coordinator, presented the status quo of the European gene bank network (EUGENA). He outlined a gene bank survey revealing that most European countries already have gene bank collections, but there is a large variability between them. Information on those gene banks and the respective collections is limited, meta-information is missing, access and assessment are necessary, as well as one portal to get access of the different types of collections. An international exchange of material does sometimes not comply with EU regulations. Old collections go back to the 1960s, but these are legally not useable according to the EU sanitary regulations. There is a big need of discussion and clarification. IMAGE will play a key role in the further development of EUGENA, e.g. via a joint EUGENA-IMAGE data portal linked to the general livestock database EFABIS.

The Austrian ERFP national coordinator and gene bank manager Beate Berger described four examples of gene bank management in Europe. She illustrated how European gene banks work differently in their purpose as a back-up for commercial breeds, as well as in their capacity to assist in-situ conservation. For example in Austria the focus lies on the support of conservation of rare and native breeds with a working collection where material is available and a core collection, which is reserved for cases of emergency. Beate Berger pointed out the many unanswered questions in this subject – but remained hopeful, that IMAGE will facilitate gene bank management on a European level.

The following discussion focused mainly on the survey which was sent to all invited stakeholders in advance:

- **Sanitary regulations:** EU regulations are interpreted differently across member countries. Officially it is impossible to use old collections from the 1960s or collections cross-border – even though pathological tests to ensure their safety are feasible today. National derogations and contents of a new EU regulation on animal breeding need to be discussed.
- **Sharing of information:** The development and further implementation of a web portal (Cryoweb on national level → EFABIS at European level) will be widely appreciated by gene bank managers and stakeholders. The incentive for sharing information would be contribution to science and the expectation to have access to information in return.
- **Sharing of gene bank material:** Availability of gene bank material for science is not a problem in general because less effort is needed for this purpose. Exchange of gene bank material and data depends on the development of an information infrastructure, i.e. a common portal for all gene banks (Cryoweb – EFABIS). Smaller collections sometimes have to reject requests for material, if the breed is already poorly represented in the gene bank.  
The commercial sector is interested in disease resistant features, genotyping and phenotyping. There is an increasing interest in material identified in The Netherlands. A problem is breeding with transboundary breeds, especially in context with genomic breeding programs.
- **Ethics and biotechnology:** Biotechnological methods that could be used in ex-situ conservation like genome editing or gonad grafting in poultry were discussed. In this context, the public acceptance of such technologies needs to be considered before starting implementation.
- **Standardisation:** In the preliminary survey, the need for standardization and harmonization of conservation criteria and operational protocols for gene banks has been mentioned repeatedly.
- **Options and limits of gene banks:** Last but not least the options and limits of gene banks were discussed. Not everything, which is possible in the lab, like the recreation of a breed out of conserved germplasm, is possible in reality today. Therefore animal gene banks may not serve as a secure safety double in the case of any bigger disaster. But gene banks are an option for conservation and development of endangered or transboundary breeds. Therefore the role of gene banks has to be made clearer to the public, to the conservation scene and the industry.

The stakeholder Dialogue Forum will not end with an event in person. Therefore everybody interested in the context of gene banks and their wider use is invited to make a statement or comment to be discussed. To get in contact with the organisers please write an email to Waltraud Kugler ([waltraud.kugler@save-foundation.net](mailto:waltraud.kugler@save-foundation.net)), Michael Klaffenböck ([michael.klaffenboeck@boku.ac.at](mailto:michael.klaffenboeck@boku.ac.at)) or Eleonore Charvolin ([eleonore.charvolin@jouy.inra.fr](mailto:eleonore.charvolin@jouy.inra.fr)).

The next IMAGE Dialogue Forum is expected to be held in association with the EAAP conference 2017 in Tallinn, Estonia. We gladly will keep you informed.