

## Proposal to the ECPGR Executive/Steering Committee for the establishment of a Maize Working Group

May 6<sup>th</sup> 2018

### **Maize genetic resources in Europe**

More than 60 000 accessions of maize are currently stored in European genebanks. They all belong to the *Zea* genus and with very few exceptions (some teosintes) to the *Zea mays* species. Most of them are held in Institutions, located in Azerbaijan, Bulgaria, France Germany, Hungary, Italy, Portugal, Romania, Serbia, Spain, and Ukraine. A partial view, to be updated, can be viewed at

[http://eurisco.ipk-gatersleben.de/apex/f?p=103:14:::NO::P14\\_GENUS%2CP14\\_SPECIES%2CP14\\_SPECIES\\_AUTHORITY:Zea%2Cmays%2C](http://eurisco.ipk-gatersleben.de/apex/f?p=103:14:::NO::P14_GENUS%2CP14_SPECIES%2CP14_SPECIES_AUTHORITY:Zea%2Cmays%2C)

In spite of this large number of maize accessions there has been no coordinated activities involving all concerned European countries to collect, conserve, document and make available to users the genetic resources of this crop.

### **Background**

Within the framework of ECP/GR, a meeting on maize genetic resources was organized in Rome 28-29 May 1996. The objectives of the meeting were to establish a European Maize Database (hosted by Maize Research Institute 'Zemun Polje') and to consider the opportunities for collaboration in Europe within the area of maize genetic resources. The meeting was attended by 21 participants from 16 countries, FAO and IPGRI.

Given the absence of a formally established ECPGR maize working group, in the EUCARPIA Maize and Sorghum Conference, held in Montpellier (France) in May 2015, the establishment of maize working group, in the context of ECPGR, was initiated. Also, the importance of extending collaborative action between curators of maize genebanks was considered.

### **Reasons/ Expectations**

In agenda of the EUCARPIA Maize and Sorghum Conference held in Montpellier (France), on May 12<sup>th</sup>, 2015, about 30 participants from different countries (Croatia, France, Germany, Italy, Portugal, Serbia, Slovenia, Spain) took part in the session:

“Working group of Maize genetic Resources and Diversity in Europe (history, conservation, description and utilization)”, organized by: A. Charcosset, B. Gouesnard, A. Zanetto.

The objective of this meeting was to update reciprocally knowledge between main actors involved in the conservation and use of maize genetic resources in the different European countries, which have been home to diversification of Maize varieties for centuries. A wealth of traditional varieties are still cultivated in some regions or maintained in genebanks, representing an invaluable cultural patrimony and a source of diversity for breeding. The possibility of ensuring the continuity of activities which would be undertaken in the area of maize genetic resources in future was discussed considered the importance of extending collaborative action.

A follow-up meeting was organized on May 8<sup>th</sup> 2017 by P. Revilla, V. Anđelković and A. Charcosset as a workshop of the Eucarpia Genetic Resources section meeting. It involved the participation of Bill Tracy (Univ. Wisconsin), chair of the International Maize Genetic Resources Advisory Committee (IMCRAG). This meeting confirmed the willingness of participants to build a regular concertation framework to improve the current status of maize genetic resources conservation, evaluation and use in Europe.

### **Objectives**

- Coordinate the efforts of the managers of national collections.

- Coordinate our efforts with the USA and CIMMYT (The IMGRAC is already established). We might also think about a cooperative plan with countries that have most of the maize genetic resources and lack expertise and resources to take care of them.
- Improve the information contained in the European Maize Database at the Maize Research Institute Zemun Polje, Serbia. Initially, database was created with passport data stored in the FAO/IPGRI *Multi-crop Passport Descriptors* format.
- Establish suitable links between this database, Eurisco and national information systems.
- Re-examination of passport descriptor lists and characterization protocols in order to improve standardization and to develop minimum descriptors.
- To obtain information about the status of regeneration in each country, improve and harmonize protocols for seed regeneration and seed storage.
- To obtain information about the current status of safety-duplication in all collections, long-term storage facilities, and availability to host black boxes for genetic resources of maize. Partners will be encouraged to make plans for safety-duplication.
- The group expressed interest for a better collaboration, and application for EU project(s) focused on maize genetic resources in Europe. Main priorities identified are:
  - To use genetic markers with a unified protocol to (i) identify duplicates and describe the organization of the maize genetic resources, (ii) make a core collection, thereby extending what was done in the context of the RESGEN88 project, which involved only 6 countries.
  - To evaluate the core collection and other resources of interest for specific traits to facilitate the use of maize genetic resources by breeders and other possible users. A strong attention will be paid to establish the link with the Private Public Partnership framework being implemented by ECPGR.

### **Proposal**

Following the very positive feedback of participants to the meetings mentioned above, we submit for consideration and approval by the Executive/ Steering Committee of ECP/GR a request for the formal establish a Maize Working Group within the ECPGR. We believe that the formalization of this ECPGR Working Group on Maize would be a major step to establish and strengthen collaboration to the entire European region and are highly motivated to act as steering committee for its establishment.

On behalf of members of EUCARPIA Maize and Sorghum Section, we very much appreciate the encouragement and support of the ECPGR Steering Committee.

Sincerely yours,

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