

## **Project Proposal of the Cucurbits Working Group for Phase VIII**

### **1. Background and justification**

The Steering Committee in its Meeting held in Riga (Latvia, 2006) defined the four priority areas for Phase VIII: “Task sharing and capacity building”, “Characterization and evaluation”, “*In situ* and on farm conservation and management” and “Documentation and information”. Additionally, it is stated that all activities have to be focused to the implementation of AEGIS. The Cucurbits Working Group pointed some activities for Phase VIII during the Second Meeting of the Vegetables Network held in Olomouc (The Czech Republic, June 2007), in order to prepare the involvement of the CGW in the implementation of AEGIS. The activities agreed in each of the four priority areas were the following:

- Task sharing and capacity building. The group will focus in:
  - the implementation of safety duplication,
  - the promotion of the participation of seed companies in regeneration and characterization activities,
  - selection of a group of members to help in the selection of accessions to be included in the AEGIS project.
- Characterization and evaluation
  - characterization of accessions in each genebank,
  - identification of taxonomical experts to help in the classification of unclassified accessions,
  - up loading of characterization data in the ECCUDB
- *In situ* and on farm conservation and management
  - Compile information about *in situ* and on farm conservation of cucurbits in Europe,
  - to develop specific descriptors for testing the suitability of the accessions to the cultivation in organic conditions,
  - to include in the ECCUDB characterization data of accessions cultivated in organic conditions.
- Documentation and information
  - Up loading of the ECCUDB with passport and characterization data,
  - identification of possible duplicates,
  - selection of the Most Appropriated Accessions (MAA) in each genebank

Taking into account the previous tasks already planned for Phase VIII, we will focus for the present proposal in three specific aspects.

### **2. Objectives of the project**

The objectives proposed are:

- 1.- The implementation of safety duplication
- 2.- The development and implementation of specific algorithms to facilitate the identification of safety duplicates in the ECCUDB.
- 3.- To strengthen collaborations with the *In situ* and on farm Network

### 3. Workplan

#### Objective 1.- The implementation of safety duplication

The Cucurbit Working Group stated the level of safety duplications in its previous meetings. Need for safety duplicates were evident for the Institute for Plant Genetic Resources (Plovdiv, Bulgaria) and The Research Centre for Agrobotany (Tápiószele, Hungary). The situation was not clear in some other not attending members to the meeting. After this meeting it was also stated the need for the implementation of safety duplicates of part of the collection of Israel. The need of implementation of safety duplicates is one of the more important objectives of the Working Groups. It has to be undertaken in a continuous manner to avoid the possibility of loss of entire germplasm collections. Currently (end of phase VII) the implementation of safety duplicates is being carried out for part of the collection of Bulgaria and Israel. But, with the available funds it will be not possible to prepare the safety duplicates of the complete collections.

The proposed actions in this proposal are:

#### *Activities of the project participants:*

- Chair and vice chair check the status of individual collections for the level of safety duplication
- Individual collection ask to their respective National Coordinators or Agriculture Ministries for permission to arrange the black boxes for safety duplicates.
- Agreements are arranged between the sending and recipient countries.
- Detailed information about the preparation of black boxes is facilitated to the respective interested countries by the chair and vice chair.
- An estimation of the cost is prepared for the implicated collections.
- Black boxes are prepared and sent to the holders institutions.

#### *Expected outputs and milestones:*

- More precise data about the level of safety duplication in all the collections
- Increase of the level of safety duplication of the collections holders of cucurbits germplasm

#### *Timetable:*

- Year 1 of phase VIII: sending of a survey asking for details about the level of safety duplication to all the WG members
- Year 2: implementation of the safety duplication

#### Objective 2.- The development and implementation of specific algorithm to facilitate the identification of duplicates

The involvement of the Working Groups in the implementation of AEGIS have been defined in the current AEGIS-Discussion paper. The Working groups have to apply the Most Appropriated Accession concept and identify the list of tentative accessions to be accepted and registered as European Accessions. This has to be done in collaboration with the respective holders. In this process the accessions proposed by each country as MAA has to be corroborated by the database managers, which have to check them for possible duplicates. A semi-automatic management of the data would facilitate the process making it less complicated and time consuming.

The ECCUDB holds passport data of near 25000 accessions of cucurbits crops. Currently the status of completeness of the database is being tested, and request for complementary data will be asked to the collection's holders. However, it will be impossible a great improvement

of the quality of the database, due to the lack of information in the original databases. So, a good management of the data stored in the ECCUDB is essential to detect the possible duplicates and select the MAA as accurately as possible. The *Avena* database manager C. Germeier of the Federal Centre for Breeding Research of Cultivated Plants, BAZ Genebank Quedlinburg in Germany has already developed several algorithms to identify probable duplicates. We propose a visit of the ECCUDB manager to Germany to learn and transfer these algorithms to the ECCUDB.

*Activities of the project participants:*

- Visit of the ECCUDB manager to the BAZ genebank. Duration: two days.
- Implementation of the algorithms in the ECCUDB
- Selection of possible duplicates

*Expected outputs and milestones:*

- Training of the ECCUDB manager
- Improvement of the ECCUDB quality

*Timetable:*

- Year 1 of phase VIII: two days visit of the ECCUDB to the BAZ genebank
- Year 2: development and implementation of tools for the identification of possible duplicates

*Objective 3.- To strengthen collaborations with the In situ and on farm Network*

The Cucurbits Working Group has not undertaken important activities on “*in situ* and on farm conservation” activities until now. However, cucurbits are organically cultivated in some European countries. The In situ Network has offered the possibility of organizing a meeting to collaborate more closely with the different Crop Networks in order to know their needs and how to help them. The CWG is interested in attending this meeting.

*Activities of the project participants:*

- Chair and vice chair attend the meeting
- A workplan is developed in collaboration with the *In situ* Network
- These plans are communicated to the CWG members by email and in the meeting of the Working Group
- Activities programmed are developed

*Expected outputs and milestones:*

- Workplan for on farm cultivation of cucurbits crops developed
- Reinforcement of on farm activities in CWG

*Timetable:*

- First year phase VIII: attendance to the meeting and elaboration of the workplan

- Second year phase VIII: communication to the CWG members and implementation of the activities

#### **4. Project coordination and administrative structure**

##### Project coordination

The activities proposed in the project will be coordinated by the chair and vice chair. Information will be requested to the members when needed and decisions will be communicated to the members by the coordinators

## Appendix 1: Workplan Table

Activity - No.	Activity	Output	Milestone	Time	Respons. and comments
1	Implementation of safety duplication	Questionaries about status of safe duplicates sent to members	To have more precise data about status of safety duplicates	2009	Chair (COMAV, UPV) and Vice chair (CGN)
1.1		To get permission from National responsible to arrange black boxes	Permission obtained	2009	Holders which need implement safe duplicates
1.2		Agreement between holders and recipients collections	Agreements obtained	2009	Holders and recipient institutions
1.3		Preparation and sending of the black boxes	Black boxes prepared and sent	2010	Holders institutions
2	Development and implementation of specific algorithms to facilitate the identification of duplicates	Visit of the ECCUDB manager to the BAZ genebank	Training of the ECCUDB manager	2009	DB manager (COMAV, UPV)
2.1		Implementation of the algorithms in the ECCUDB	Algorithms implemented	2010	DB manager (COMAV, UPV)
2.2		Selection of possible duplicates	Improvement of the ECCUDB quality	2010	Chair and DB manager (COMAV, UPV)
3	To strengthen collaborations with the <i>In situ</i> and on farm Network	Attending the meeting proposed by the <i>In situ</i> and on farm WG	Meeting held	2009 or 2010	Chair and Vice chair
3.1		Development of a workplan in collaboration with the <i>In situ</i> and on farm Network	Workplan agreed	2009 or 2010	Chair and Vice chair
3.2		Workplan communicated to the WG members	Workplan agreed by all members	2010	All members
		Implementation of the workplan	Workplan executed	2011	All members
4	Regular Cucurbits Working Group Meeting (1 people)	Review of the general workplan of the Working group	Workplan reviewed and new tasks agreed, mainly related to AEGIS implementation	Not determined, Could be 2010	11 members