PROJECT PROPOSALS ECPGR SOLANACEAE WORKING GROUP FOR PHASE VIII

<u>Background and justification</u>
According to the Vegetable Network's decision to dedicate all efforts in phase VIII to work towards the AEGIS concept, the Solanaceae Working Group intends to execute several tasks.
ECPGR has set four priorities for phase VIII which are the same as the priorities of phase VII (characterization/evaluation; task sharing; in situ/on farm conservation; documentation and information). The Solanaceae Working Group wants to continue the work started in phase VII related to these priorities (see objectives of the ongoing actions). However, the WG wants to tackle more peculiarly   with two specific issues of ECPGR which relate closely to the aims of AEGIS (see objectives of projects A and B).

1. Ongoing objectives and actions
Task sharing & capacity building
* The minimum guidelines will be made more specific per crop in order to evolve towards a common quality standard for regeneration and storage.
* develop a project with a consortium of breeding companies for revealing with molecular markers, the structure of the genetic diversity of the European collection of one of the species the WG deals with.
* implementation of the Most Appropriate Accessions concept (see Project A)
*Increase of safety duplication level (see project B)

Documentation
* SOL WG members who did not provide so far their passport data will be urged to do it.
* All WG members will be requested to provide the DB managers with the availability status of their accessions (information either sent as EXCEL file to the Chair & vice Chair, or uploaded directly into the DB by the members if possible).
* the use of the minimum descriptor lists will be highly recommended to all Sol WG members, and they will be urged to provide the information to the DB managers for uploading.

Characterization and evaluation
* the partner from Austria will grow a new set of *Physalis* accessions provided by the Polytechnic University of Valencia. This set will be used to validate the draft descriptor list for this species and to improve it. Similarly, a PhD student at the Polytechnic University will work on the improvement of *Cyphomandra* descriptors.

In situ and on farm conservation
* SOLWG members will be requested to draw a picture of the Solanaceae genetic resources held in their country by non-governmental organizations (NGOs) and possibly other unofficial actors, and when possible, a list of the accessions concerned will be provided or extracted from the EURISCO catalogue. This information will make possible the assessment of the differences between the material held by the formal and informal sectors.
* The Austrian member of the SOLWG is ready to implement demonstration and education plots of several cultivated Solanaceae in year 2009. For this, a set of accessions representative of the diversity of the targeted species will be chosen. The feedback from this experience, aimed at improving the awareness of growers, gardeners and the public audience, will be measured in the following years. The criteria for measuring the impact of such educational initiatives have to be defined.

<u>2. Objective of project A</u>
The MAA concept has been worked out by the four example Working Groups of AEGIS and was presented in the discussion paper. The Working Groups have been assigned a major task in selecting the MAA's. Once each country has indicated which accessions are to be included in the European Collection, the database managers of the Solanaceae WG will have to face the big task of identifying the probable MAA duplicates in the Central Crop Databases. It would be of great help if the probable duplicates could be found in a semi automatic way. To do this, tools must be developed for the database managers. 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. The database manager of the tomato DB (located at CGN, NL) will visit the Avena DB manager to get instructions on how to adapt these tools for identifying duplicates in the tomato DB, the largest DB of all Solanaceae WG databases. The new tools developed by the tomato DB manager will be transferred to the other DB managers (eggplant, pepper, Cyphomandra, Physalis and pepino) of the Solanaceae crops during a special meeting.

The tools will help and speed up the process of finding duplicates and assigning MAA's. To meet ECPGR's priority "capacity building" even better, all knowledge will be transferred to the network.

Work plan
- Activities of the participants
    - Tomato DB manager visits the *Avena* DB manager in a two day visit
    - He will develop tools for identifying possible duplicates in the tomato DB
    - Knowledge will be transferred to the other DB managers of the Solanaceae DBs during a one day workshop
- Expected outputs
    - Specific programming information is transferred to the tomato DB manager in order to develop tools for grouping possible duplicates in the tomato DB
    - The developed tools will be used by other DB managers of the Working Group and of the Vegetable Network, in order to simplify the selection of MAA's
- Timetable
    - Year one of phase VIII: visit of tomato DB manager to *Avena* DB manager
    - Year one and two: development of tools for grouping possible duplicates
    - Year two: workshop with other Solanaceae DB managers

- Budget
    - Two day visit two persons: €1640
    - Development of algorithms   input in kind of CGN
    - Workshop for other DB managers: €3280
      (4 persons, travel, hotel, meeting room)

3. Objective of project B
The security of a collection is improved if this collection is duplicated. This is a task in the ECPGR working mode which has continuous attention. To dedicate material of a certain collection to AEGIS it is also necessary to have safety duplication of these particularly valuable accessions. Inventories have been made of collections of Solanaceous crops held in Europe, which are safety duplicated and which institutes are offering to host black boxes. Even though safety duplication is promoted throughout phase VII, some collection holders encounter (logistic) problems in producing safety duplicates. The objective of this second project is to approach each collection holder individually and determine the possible problems they face. If logistic problems occur, a plan of action will be made including costs for personnel, for packing, packing material, sending etcetera.

Work plan
- Activities of the participants
    - Chair and vice chair approach individual collection holders in order to check the status of safety duplication
    - Collection holders indicate the logistic problems which prevent the arrangements of safety duplication of their collection
    - Collection holders present a cost statement to the chair for the work needed to carry out safety duplication in another institute.
    - Agreements will be made between each collection holder and the institute(s) offering to host black boxes.
- Expected outputs
    - List of institutes having logistic problems arranging safety duplication
    - Overview per institute which problems occur and the budget needed to solve these problems
    - Material transfer of at least 3 collections which are not safety duplicated to long term storage facilities in other institutes
- Timetable
    - Year one of phase VIII: Inventory of institutes having logistic problems arranging safety duplication and budgets needed to solve these problems
    - Year two: Arranging Memorandum of Understanding between institutes and sending the material in black boxes to hosting institutes
- Budget
    - Labour, package material, sending costs, total for all participants: €2920 (level 100%),
    - €3142 (level 115%), €3880 (level 125%)

Appendix 1: Workplan of the Solanaceae Working Group, phase VIII (2009-2013)

Activity-No.	Activity	Output	Milestone	Time	Respons. and comments
A	Development and implementation of specific algorithms to facilitate the identification of duplicates	Visit of the ECPGR tomato database manager(s) to the BAZ genebank	Training of the ECPGR tomato database managers	2009	DB managers (CGN)
A.1		Implementation of the algorithms in the ECPGR tomato database	Algorithms implemented	2010	DB managers (CGN)
A.2		Improvement of the ECPGR tomato database quality	Selection of possible duplicates	2010	Chair and DB manager (CGN)
A.3		Transfer knowledge about specific algorithms for tracing possible duplicates	Ad hoc meeting of Solanaceae WG database managers	2010	DB managers of Solanaceae (AARI, COMAV, Radboud Un., CGN)
B	Implementation of safety duplication	Individual approach of collection holders who indicated logistic problems which prevent the arrangements of safety duplication of their collection	Precise data about status and problems of safety duplicates	2009	Chair (CGN) and Vice chair (INRA)
B.1		To get permission from national responsible persons to arrange black boxes	Permission obtained	2010	Holders who need to implement safety duplicates
B.2		Agreement between holders and recipients collections	Agreements obtained	2010	Holders and recipient institutions
B.3		Preparation and sending of the black boxes	Black boxes prepared and sent	2010	Holder institutions
C	Regular *Solanaceae* Working Group Meeting (11 people)	Review of the general workplan of the Working group	Workplan reviewed and new tasks agreed, mainly related to AEGIS implementation	2011	11 members