



BMT/13/17

ORIGINAL: English

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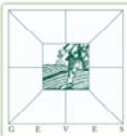
INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

**WORKING GROUP ON BIOCHEMICAL AND MOLECULAR
TECHNIQUES, AND DNA-PROFILING IN PARTICULAR**

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GEMMA: A TECHNICAL WEB SITE TO SHARE DUS DATA [TWC/29/24]

Document prepared by experts from France




Groupe d'Étude et de contrôle
des Variétés Et des Semences



GEMMA :

A technical web site to share DUS data

Geneve – June 2011



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Context

- Framework of CPOV project : Management of Peach three reference collection
- Four partners involved :
 - Hungary
 - Spain
 - Italy
 - France
- These countries are characterized by an important number of varieties available and a fast renewal of the varieties

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Context

- Clearly, developing means of “managing” reference collections is highly desirable
- Therefore, this project will generate a database compiling at first stage 522 peach tree varieties, selected among the European granted and listed varieties :
 - Phenotypic data (Qualitative, Quantitative)
 - Digital pictures
 - Molecular data (Using a common set of SSR markers)
- The database produced will be available to the partners of the project for all the studies aiming at the improvement of the quality of the identification of varieties
- This database could also be used for other species

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Data model

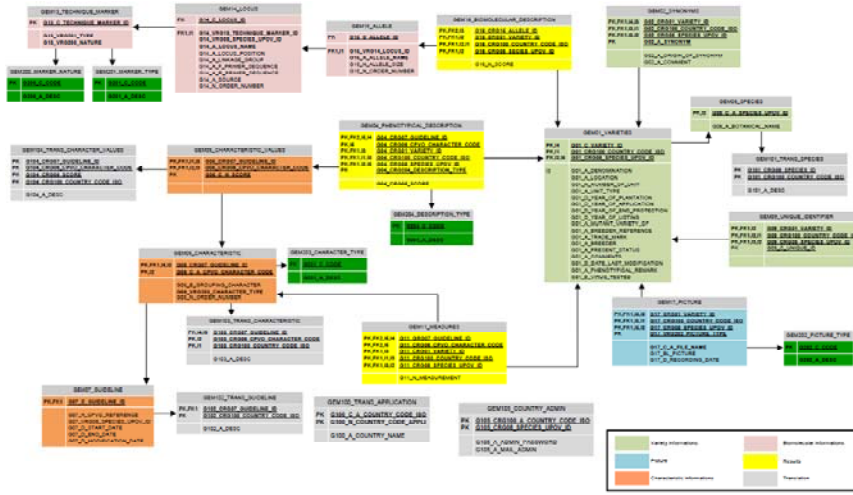
- A good starting point : The database structure developed for maize by Spain, Germany and France, in the frame of the programme CPV4961 supported by CPVO in 2003-2005
- Adapt this database structure
 - To integrate different type of data (Molecular data + Digital pictures) whatever the couple Species/Country
 - To support multi language
 - To define access rights

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Data model

Peach tree reference collection database : relational model



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Web Site Approach

- Easier way to share data
- Allow to correct problems quickly
- Easier to manage data such as digital pictures
- Possibility to provide some useful tools (Ex : sorting, ...) automatically available for all users

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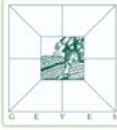
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Excel format to import and export Data from Gemma

- Excel is a user friendly and known by a wide community of users
- People don't need to know the structure of database to Import/Export
- People who use a central database to manage and store their DUS data can develop procedures to generate automatically the creation of Excel files for Gemma
- Allow mor flexibility when modification of database model when needed

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Integrity of the database GEMMA

SPECIES

Order to follow for integration

↓ ↑

CHARACTERISTIC

LOCUS/ALLELE

VARIETY

Order to follow for deletion

↓ ↑

DATA


QUANTITATIVE


QUALITATIVE

PICTURES

BIOMOLECULAR

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Defining access rights to the database GEMMA

- The system of rights access is based on three different levels
 - Administrator access that allow to manage all data of specific couple Species/Country
 - User restricted access that require a specific Account/Password
 - Public access that not require a specific Account/Password

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Defining access rights to the database GEMMA

- The data administrator can associate existing user accounts to a given couple (speciesxcountry)
- For each variety, the data administrator can also indicate :
 - Other administrator accounts to which he grants the display right
 - Level access :
 - 1 = Public access level
 - 2 = Restricted access level
 - 3 = Administrator access level

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Defining access rights to the database GEMMA

- If a variety has an access level = 1, everyone can see the variety
- If a variety has an access level = 2, only user and administrators accounts defined by the data administrator of the couple Species/Country, will see the variety
- If a variety has an access level = 3, only administrators accounts defined by the data administrator of the couple Species/Country, will see the variety

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Demonstration of web site GEMMA

- Data management :
 - Species
 - Characteristics
 - Locus / Alleles
 - Varieties
 - Measured data, Phenotypic data, Molecular data, Digital pictures
- Display, Sort, Export data

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