



BMT/14/18

ORIGINAL: English

DATE: November 7, 2014

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

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

Fourteenth Session
Seoul, Republic of Korea, November 10 to 13, 2014

A EUROPEAN POTATO DATABASE AS CENTRALIZED COLLECTION OF VARIETIES OF COMMON
KNOWLEDGE

(A CPVO FOLLOW UP PROJECT OF THE R&D PROJECT "CONSTRUCTION OF AN INTEGRATED
MICROSATELLITE AND KEY MORPHOLOGICAL CHARACTERISTIC DATABASE OF POTATO
VARIETIES IN THE EU COMMON CATALOGUE")

Document prepared by experts from the Community Plant Variety Office of the European Union, the United Kingdom and the Netherlands

Disclaimer: this document does not represent UPOV policies or guidance

BACKGROUND

1. The first research and development project "Construction of an integrated microsatellite and key morphological characteristic database of potato varieties in the EU Common Catalogue" was finalized in 2008. The project, carried out by the United Kingdom (GB), the Netherlands (NL), Germany (DE) and Poland (PL), provided for a database (DB) with key morphological characteristics from the Community Plant Variety Office of the European Union (CPVO) technical protocol, light sprout pictures and molecular marker profiles of 9 SSR markers for about 1000 varieties from the EU Common Catalogue, including the Community Plant Variety Right (CPVR) protected varieties.

2. The aim of this previous project and database is the implementation in the practical DUS test of potatoes. However, the implementation proved to be difficult for the following reasons:

(a) None of the four project partners used the morphological data and the lightsprout pictures which were introduced into the DB at the time of its creation. The reason was that the morphological descriptions and lightsprout photographs contained in the database were not yet appropriate for the identification of similar varieties, in particular since descriptions had been produced in different locations and different years

The morphological characteristics and the pictures in the DB are not harmonised and the DB has not been fed with new variety descriptions by the four partners since the end of the project in 2008.

(b) Two of the project partners, GB and NL, had continued to feed the DB with the molecular profiles since the end of the project. They entered the profiles of the relevant candidate varieties of their country. For the purpose of the inclusion of similar varieties to candidate varieties into the DUS test in the field, the profile of the candidate variety is checked against the DB. After the first cycle of testing, the lightsprout pictures are checked against the lightsprout pictures in the DB (only in NL) DE+PL do actually not use molecular profiles as an additional tool for the identification of similar varieties.

The DB of molecular data is harmonised between the two labs in GB and NL but has been fed with new candidate varieties only since 2012 from all four project partners.

(c) The enlargement of the European Union since 2004 had led to nine entrusted examination offices for the DUS test of potato varieties. Only four of them were the initial project partners.

The CPVO wished to have all nine entrusted examination offices to be involved in that database.

(d) An agreement on the IT platform to be used needed to be established

(e) The ownership, access rights and the use of the DB results needed to be clarified.

(f) The contribution and the maintenance of the DB needed to be clarified

(g) None of the cost elements of the DB had been clarified so far.

FOLLOW UP MEASURES OF THE PREVIOUS PROJECT UNTIL 2013

3. As a consequence of the above mentioned points, the CPVO had taken, in collaboration with the project partners and European Seed Association (ESA), and for some with the five remaining entrusted (Examination Offices) examination offices, the following measures

Morphological data and lightsprout pictures

4. In order to achieve a high level of harmonisation in the description of the varieties, including light sprout data and pictures, a ring test (field test and lightsprout cabinet) was carried out during 2012 by all nine entrusted examination offices. All characteristics of the CPVO Technical Protocol (CPVO-TP) were assessed. The ring test results allowed deciding that the setup of the lightsprout cabinets should be harmonized during 2013 and that a further ring test should be conducted in 2013/2014 concerning the lightsprouts, a meeting of the experts should take place in summer 2014 in order to assess the results.

Molecular data

5. The four project partners contributed with leaf samples for the DNA extraction and the DNA profiling for the inclusion into the DB since the growing cycle 2012. The CPVO had drafted a procedure as regards the sampling, sealing and sending of the samples to the labs in GB and NL and currently subsidises this process.

Enlargement

6. The four initial project partners have agreed to open the DB to all nine entrusted examination offices.

Ownership, access rights use of the DB and the appointment of labs

7. The initial project partners have sent a proposal to the CPVO as regards access rights and the use of the IT platform, the CPVO has collected information as regards an open call for tender for the appointment of labs.

OBJECTIVE

8. The complete and maintained DB as a centralized collection of morphological and molecular data of varieties of common knowledge would be an important tool for examination offices to organize the DUS tests in an efficient manner by providing reliable results for a crop without living reference collection. The use of a centralized DB would improve quality and would supposedly reduce costs of the DUS test compared to the maintaining of several DBs on National level. Furthermore, beside its purpose for the DUS test, a part of the DB (molecular profiles) could be used by titleholders as a rapid tool in enforcement situations.

Coordinators	CPVO (administrative) and Naktuinbouw (technical)
Contact persons	Anne Weitz (CPVO); Henk Bonthuis (NL)
Proposed project partners	Naktuinbouw (NL), Science and Advice for Scottish Agriculture (SASA, GB), Bundessortenamt (BSA, DE), The Research Centre of Cultivar Testing (COBORU, PL), Spanish Plant Variety Office (OEVV, Spain), Department of Agriculture and Food (DAF, Ireland), Austrian Agency for Health and Food Safety (AGES, Austria), Central Institute for Supervising and Testing in Agriculture (UKZUZ, Czech Republic), The Central Controlling and Testing Institute in Agriculture (UKSUP, Slovakia) and ESA
Duration of the project	2 years

Anne Weitz, Technical Expert Agricultural Species
Community Plant Variety Office (CPVO), the European Union

[End of document]