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Community Plant Variety Office
Office Communautaire des Variétés Végétales

CPVO R&D STRATEGY 2015-2020

1. GUIDING VALUES

Quality, Cost-Effectiveness, Timeliness and Harmonization.

2. STRATEGIC GOAL

Conduct R&D projects with the aim to optimize the quality while reducing costs of DUS tests within the CPVO network of Examination Offices, to strengthen EU Plant Variety Rights (PVR) and to facilitate enforcement.

3. OBJECTIVES

In order to achieve the strategic goal 3 objectives have been identified:

1. The setup of shared online databases containing data that can be used for managing reference collections;
2. Improvement and harmonization of methodologies and procedures included in the CPVO Technical Protocols (TPs);
3. Promotion of the use of bio-molecular techniques in DUS testing and variety identification;

Objective 1

The setup of shared online databases containing data that can be used for managing reference collections (morphological data/biochemical and molecular data//administrative data/(and photos)

Having complete reference collections is a key requirement for the quality and reliability of DUS tests and consequently for the robustness of the EU PVR system. The increasing number of varieties of common knowledge has as a consequence that this task is becoming more complex and expensive for each Examination Office ('EO'). Experience shows that shared databases containing morphological data, biochemical and molecular data and administrative data (and photos), help EOs to ensure the completeness of the reference collection. Synergies can also be made in the sense that each EO contributes data to a centralised database instead of each one of the EOs compiling and maintaining overlapping data.

Experience has also shown that significant work needs to be done in order to ensure that data entered into a database by different partners established in different ecological areas of the EU is reliable and coherent. Amongst other things EOs need to carry out ring tests, calibrate observation methods, establish common photo facilities and assess to what extent bio-molecular techniques can be used and for what



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purpose. In case a project has to be followed up it is crucial that a commitment is made by all partners to feed into a common database on a continuous basis data on varieties tested. On the other hand such projects have the positive effect that the partners of the EO Network meet with the aim to harmonize methods and procedures. Technical protocols can be improved and a better understanding of the interaction between Genotype and Environment is often gained.

The CPVO considers that cooperation amongst EOs contributes to the implementation of the principle of "one key-several doors". The use of shared databases is also beneficial for DUS tests organized for national purposes (listing and national PVR). The cooperation amongst EOs can also be explored in order to facilitate the access and the exchange of plant material of reference varieties and to reduce costs in terms of its maintenance/conservation. This initiative has also been supported by the breeders' organizations.

The CPVO is involved together with entrusted EOs, in the setup of several databases established in the framework of R&D projects. Taking into account the workload involved and that this is still a new way of cooperating which requires discussion of a number of different issues (technical and legal), R&D projects should be initiated with the aim to address the technical issues raised above and thus ensure that the data collected are reliable and coherent.

Some R&D projects have led to common databases having been set up and co-hosted by EOs. Feedback shows a generally positive attitude to the results of these exercises. For the reasons mentioned above the CPVO aims to extend experience gained to other species.

The CPVO should work closely with EOs when creating and developing such projects. Due to the relevance of these databases and its goals, the following conditions should be respected in R&D projects co-financed by the CPVO in the frame of this objective:

- All CPVO entrusted EOs for the species should be part of the project and be able to contribute, access to and benefit from the potential database.
- The projects aiming to establish these databases must foresee the necessary and adequate preparatory work e.g. ring tests, calibration of observation methods and other preparatory work necessary to ensure the reliability and suitability of the data included in the database for the purposes in view
- The project shall contain an agreement between the project partners indicating the terms and conditions amongst others:
 - contribution and maintenance of data
 - access to and use of the database, including access rights of the CPVO and possible future entrusted EOs for the species
 - the role and the rights of the administrator
 - the responsibility for future IT developments of the database
 - the ownership of the molecular data related to varieties protected by Community PVR or candidate varieties, which shall respect rules adopted by the CPVO, and in the absence of such rules, the terms and conditions in the agreement shall be agreed upon by the CPVO
 - confidentiality of the data (use and handling) provided by the parties and possibly other contributors
 - the exclusion of any user of the database that does not respect the agreement
 - amounts to be paid for the establishment, maintenance and future developments



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In case of dispute the CPVO shall act as mediator and if necessary take action to ensure that the administrator and all partners respect the conditions laid down in the agreement mentioned above.

As a matter of principle, the option to involve testing centers located in countries outside the EU, specifically UPOV countries, in this type of projects has not yet been explored but should remain an option if there are recognized advantages for the European network of EOs and the clients of the EU system, such as ensuring that varieties of common knowledge from such countries are taken into account when assessing DUS in the EU.

Actions:

1. Upon proposals from the CPVO crop experts a list of species that could benefit from the setup of the shared databases should be determined;
2. CPVO to prepare a calendar together with the crops experts groups for the submission of projects related with the objective and agree on a roadmap;

Objective 2

Improvement and harmonization of methodologies and procedures included in the CPVO TPs

This objective is largely achieved by the work on the CPVO-TPs as well as the implementation of the former objective, namely by the organisation of ring tests for the setup of shared databases of reference varieties, and calibration of characteristics assessment made by DUS experts foreseen in objective 1. However there are still other methodologies and practices where there is room for harmonization/standardization amongst the CPVO EO network, e.g. the testing of resistances. The EOs, the clients and ultimately all testing centers that are using CPVO TPs, are the beneficiaries of this objective.

Actions:

1. CPVO crop experts group to identify and agree, on the procedures and methodologies where harmonization could be achieved through R&D projects and to define the priorities;
2. CPVO to prepare a calendar together with the crop experts groups for the submission of projects related with the objective and to agree on a roadmap;
3. CPVO, EOs and breeders organizations to initiate projects for the methodologies and procedures identified;
4. To include a specific point related to R&D projects aiming at this objective in the CPVO crop experts meetings and to consider in each meeting the achievement of the partial goals.

Objective 3

Promotion of the use of bio-molecular techniques in DUS testing and variety identification

The recent discussions and conclusions at UPOV level and the experience acquired in some EU Member States and within CPVO R&D projects are positive in relation to the possible use of these techniques for



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DUS tests in certain species. Bio molecular techniques (BMT) have proven to be a useful tool in the DUS tests of some species, namely in the context of the models referred in the UPOV document TGP/15/1: Characteristic-specific molecular markers and combining phenotypic and molecular distances in the management of variety collections. Both models have been applied by some EOs with success in certain species. Their potential interest for the improvement of DUS tests, variety identification and enforcement purposes has been recognized.

The CPVO believes that technology is rapidly being developed as regards bio molecular techniques and as a leading agency in plant variety rights it should invest in R&D for the purpose of using such techniques where this can contribute to efficiency and quality. However, practice has shown that it is for many reasons difficult to integrate the BMT when testing plant varieties. Due to such specificities and taking into account the increasing relevance of this matter the CPVO should setup a CPVO BMT Expert Group (similar to the CPVO crop experts groups)

Such expert group should be composed of BMT experts from interested EOs and breeders organizations. The participation should be limited to experts that can actively contribute in terms of preparing documents and presentations. Experts from laboratories, universities, the industry etc., can also be invited by the Chairman of the Group. The CPVO BMT Expert Group should be chaired by the CPVO and should report to the President of the CPVO. The activities of the Group will be reported on to the Administrative Council and to TLOs and documents of the Group should be made available to all AC Members and TLOs. As a general principle the Group should meet once a year.

The CPVO BMT Expert Group should work as a think-tank and from a broad perspective view how to best integrate bio molecular techniques into DUS tests. It should assess and discuss new developments in BMTs and their potential use for DUS, variety identification and enforcement. It could also identify relevant species where these techniques would be more promising; to harmonize methodologies, to promote and propose R&D projects for co-funding. The CPVO will present to the Administrative Council the terms of references of such Group.

4. MEANS OF INTERVENTION

4.1. Financing

As discussed in the March meeting (Doc-AC/14/01/19), the CPVO envisages continuing the approach of project funding, mainly due to the fact that the available resources are not enough to launch and support a full-fledged research program.

It is expected that in this way the CPVO will be able to promote more projects and move faster in the achievement of the proposed objectives in order to achieve the strategic goal.

As has been indicated in the document Doc-AC/14/01/19, since the first introduction of the budget line for R&D projects in the CPVO budget for 2002, less than one third of the budgetary resources available have been used. For that reason it is not foreseen, for the time being, to increase the annual amount budgeted for this purpose. However the CPVO will be attentive to this budget line and will in time propose to the AC

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adjustments in case any revision of that amount will be opportune. The aim is that for each R&D project launched all CPVO entrusted EOs for the species concerned by the project are involved.

4.2. Human Resources

Presently the work done by CPVO staff in relation to R&D projects consists of drafting, processing and assessment of candidate projects, the coordination and monitoring of on-going projects, the follow up of finalized projects and the managing and reporting (at present the CPVO is monitoring and coordinating a total of 6 R&D projects). Any implementation of the aforesaid strategy depends on the availability of human resources, which will be analysed on a case by case.

4.3. Priorities

Taking into account the limitation in human resources the CPVO considers that it would be opportune to start working with objective 3 (the setup of a BMT experts group) and also to raise these issues in the crop expert meetings as indicated under objective 1. Priorities could then be set as regards which kind of projects should be launched and for which species projects should be initiated.

5. REPORTING AND ASSESSMENT OF THE STRATEGY

The CPVO shall report on the implementation of the strategy on an annual basis to the AC. This strategy should be assessed in 2020 and a report presented to the AC.