



Report of the joint EEC-EPPO workshop on Euphresco

27-28 July 2016

EEC headquarters, 2/2 Letnikovskaya Street
Moscow 115114 Russian Federation

The Eurasian Economic Commission (EEC) and the European and Mediterranean Plant Protection Organisation (EPPO) jointly organised a workshop on the Euphresco network for phytosanitary research coordination and funding.

Minister Valery Nikolaevich Koreshkov, Member of the Board for Technical Regulation of the EEC and Mr Martin Ward, Director-General of EPPO welcomed the participants to the workshop.

Introduction to plant health

Mr Ward provided a [brief introduction](#) on the remit of EPPO to: a) advice on measures against plant pests and diseases b) provide assistance in carrying out measures c) co-ordinate international campaigns d) share information between member governments e) exchange information on national legislation f) promote harmonisation of regulation and g) facilitate co-operation in research. He also presented the EPPO [perspective](#) on Euphresco, the reasons for the need of such a network after the 2004 EPPO Council Colloquium declared 'Plant Health endangered', the path that has led to the Euphresco Secretariat being hosted within the EPPO Secretariat and the discussion on a Euphresco membership to all EPPO members to become Euphresco members as well.

Mr Amerguzhin presented the activities of the Eurasian Economic Commission and its [responsibilities](#) in the field of plant quarantine. The treaty on the Eurasian Economic Union (2014) empowers the EEC in matters such as the development of the list of regulated products, the list of quarantine facilities, the identification of common quarantine phytosanitary requirements and the harmonisation of rules and standards. Various official documents (e.g. the single list of quarantine facilities, the common quarantine phytosanitary requirements) are available from the organisation website and translation in English are provided to stimulate international collaboration.

Mr Nersisyan presented the new FAO strategic objectives, structure of FAO bodies, their activities including works in plant protection and some [examples](#) of phytosanitary research programmes and projects. He focused on the Regional FAO Office for Europe and Central Asia and reported about the main priorities in providing technical assistance to countries in plant production and protection. He stressed the importance of phytosanitary research and explained the use of Phytosanitary Capacity Evaluation tool to assess effectiveness of national phytosanitary services including their capacity to conduct research and implement its results.

Mr Muminzhanov reported about collaboration between FAO and NPPOs of Central Asian countries including Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Turkmenistan



and Uzbekistan. He presented the main priority activities and [reported](#) about meetings and projects organised for the region in recent years.

Mr Orlinski described the [global plant protection](#) system and its structure. He explained the relationship between the SPS Agreement (on sanitary and phytosanitary measures) of the World Trade Organisation (WTO) and the International Plant Protection Convention (IPPC). He presented some key International Standards for Phytosanitary Measures (ISPMs) of the IPPC and the role of regional plant protection organizations (including EPPO) in global harmonisation of phytosanitary activities. He stressed the importance of phytosanitary research for the effectiveness of plant protection.

Introduction to Euphresco

Ms Blümel presented the past activities of EUPHRESCO as an [ERA-Net](#) project funded by the European Commission 6th and 7th Framework Programmes. As an ERA-NET EUPHRESCO succeeded in developing trust and confidence among the organisations involved, establishing tools and procedures to support coordination of national research activities and collaboration in transnational research projects. Over the years the network expanded in terms of geographical coverage, with the inclusion of the eastern countries of the European continent and the collaboration with third countries. New research priorities were added, such as trees and forest health. A main achievement towards the long-term sustainability of the network was the development of a Modus Operandi that explains the network's Governance, the scope and principles under which the Euphresco sustainable network operates. Statistics on the different rounds of funding of transnational research projects were also provided.

Mr Giovani explained the reasons that made Euphresco a successful ERA-Net project. And paved the way to the long-term [sustainable Network](#). The membership has expanded from the original European countries and organisations from Canada and the United States of America are now active members. The tools to support members' activities are constantly adapted to members' needs and new infrastructures are developed, such as the phytosanitary research projects database and the research expertise database. Since 2014 two rounds of funding have been organised; in 2015 15 transnational research projects were funded, and 24 research priorities could potentially be funded in 2016.

The added value of Euphresco to national activities

Ms Dollard presented the Canadian Food Inspection Agency ([CFIA](#)), the largest Canadian science-based regulator. The Agency is responsible for the delivery of all mandated programmes for food safety, plant and animal health. Plant research needs and priorities are identified through a collaborative process where all CFIA branches are represented and external experts participate. The Agency has increased the focus on collaborative work with external partners to enhance capacity and delivery of science to support programmes. Some examples of external collaboration include the project 'Quarantine Invasive Species' on the use of DNA barcoding for long term monitoring of native and invasive species and the

Euphresco projects 'Tree Borers: risk assessment, risk management and preparedness for Emerald Ash Borer and Bronze Birch Borer', 'Multi-lure and multi-trap surveillance for invasive tree pests', 'The biology and epidemiology of *Candidatus Liberibacter solanacearum* and potato phytoplasmas and their contribution to risk management in potato and other crops', 'Diagnostic tools for the detection and identification of *Ralstonia solanacearum* directly on plant tissues', 'Assessment of *Dickeya* and *Pectobacterium* spp. on vegetables and ornamentals', and 'The application of Next-Generation Sequencing technology for the detection and diagnosis of non-culturable organism: viruses and viroids'.

Ms Sherokolava stressed the importance of international collaboration in phytosanitary research and believed that Euphresco provides a very efficient way for phytosanitary research coordination. She described EUPHRESCO I and EUPHRESCO II activities, the main priorities for future research and the [advantages](#) of participating in Euphresco.

Mr Schenk presented the Netherlands Food and Consumer Product Safety Authority (NVWA) and the phytosanitary [research activities](#) in the Netherlands. These activities are co-funded by the Ministry of Economic Affairs, the NVWA and industries and growers. He presented some examples of public-public or public-private research cooperation for the development of reliable and cost-effective methods to determine the level of resistance to *Meloidogyne chitwoodi*, for the improvements of methods for the isolation and detection of *Xylella fastidiosa*, and for the application of controlled atmosphere and temperature treatment to eliminate pests from the plant products.

Phytosanitary research projects

Mr Giovani explained that the overall aim of Euphresco is to reduce fragmentation and favour synergies and complementarities of national [research activities](#). The Euphresco funding procedure has been developed to cope with different procedures, calendars and barriers to transnational flow of funding. The yearly funding procedure is facilitated through the online platform INTerACT (**I**dentify **t**opics for **t**ransnational **c**ollaboration). The procedure starts with the identification of research priorities by each Euphresco member. Through a multi-steps process and using various cut-off criteria (transnational interest, identification of topic coordinators and funding availability) the list of priorities is shortened and research projects to be officially funded through Euphresco identified. Mr Giovani presented the benefits from participating in Euphresco projects both from a funder and a research point of views.

Mr Kornev reported about scientific and [practical applications](#) of EUPHRESCO project results in Russian National Plant Quarantine Center (VNIIKR). He presented the following completed projects:

- Improving *Synchytrium endobioticum* diagnostic methods including pathotype identification (SENDO)
- Phytosanitary diagnostic, on-site detection and epidemiology of *Erwinia amylovora* (PHYTFIRE)
- Assessment and testing of strawberry pathogens (SPAT)
- Validation of DNA barcoding protocols by end-users (DNA Barcoding).

He also presented the project 'Consensus detection and identification protocol for *Acidovorax citrulli* on cucurbit seeds' including the following:

- Development, implementation and validation of a protocol for the detection of *A. citrulli* in melon and watermelon seeds
- Implementation of a seedling grow-out test
- Development, implementation and validation of a semi-selective agar medium for isolation of the pathogen from infested plant tissues
- Development of a method for identification and characterization of *A. citrulli* isolates belonging to all three genotypes reported worldwide
- Implementation of a pathogenicity assay on melon and watermelon seedling to assess and confirm both identity and virulence of putative *A. citrulli* isolates.

He mentioned laboratory training, availability of reference or collection material, exchange of original tests methods, new methods development and validation, communication with experts from different countries, increase of expert qualification and reliability of research conducted as advantages of participation in Euphresco.

Ms Viaene presented the main objectives and results of the EUPHRESCO project '[Ring testing of diagnostic methods for the identification of potato cyst nematodes and assessing resistance of potato cultivars](#)'. *Globodera rostochiensis* and *G. pallida* are the most important nematodes of potato causing yield reduction and annual loss in Europe evaluated at 220 M€. The identification of potato cyst nematodes is based on morphological and molecular methods; during the EUPHRESCO project a proficiency test for methods of identification was organised. The results of the 16 laboratories involved showed that most of the laboratories (90%) detected the potato cysts correctly but mistakes were possible with *Globodera tabacum*. Resistant potato cultivars exist and the proficiency on the method for resistance testing (as from EU directive 2007/33/EC) was also assessed during the project. Most of the laboratories had similar results, but some important differences were identified that were explained with the method to calculate the inoculum and the final number of nematodes.

Mr Shneyder presented the details for international cooperation and participation of experts of the Russian National Plant Quarantine Center (VNIIKR) in Euphresco projects on Virology and Phytoplasmology on the example of some ongoing projects on several [viral diseases](#) (*Potato Virus T*, *Andean Potato Mottle Virus*, *Plum Pox Virus* and some others). He described the projects 'Virus Collect II', 'NGS-detect' and '*Candidatus Liberibacter solanacearum*'.

Mr van de Vossenbergh presented the work on [DNA barcoding](#) and its use in plant pest diagnostics. Barcoding protocols were developed for selected regulated organisms during the EU-funded project QBOL. Needs for improvement were identified during a test performance studies, concerning in particular the user-friendliness of protocols, guidance on data analysis and harmonisation between organism groups. The DNA barcoding EUPHRESCO project was funded to update the protocols, include new tests for bacteria, fungi and invasive plant species and to produce guidelines on data analysis. A new test performance study was organised in this framework (23 participants from 15 countries) that demonstrated that the tests are robust and that 99% of diagnostic sensitivity can be reached, but data interpretation could be challenging. A new Euphresco project on Barcoding could be funded in 2016 focussing on knowledge transfer in order to empower the users of the technology.



Mr Alimbekov presented the phytosanitary situation in [Kyrgyz Republic](#) with the administrative structure of the country, the plant resources description, the list of regulated A2 pests (includes *Hyphantria cunea*, *Grapholitha molesta*, *Quadraspidiotus perniciosus*, *Monochamus galloprovincialis*, *Pseudococcus comstocki*, *Globodera rostochiensis* and *Erwinia amylovora*) and countries of origin of imported plants for planting. He described the structure of the NPPO, the national phytosanitary legislation and the international phytosanitary cooperation.

Ms Zharmuhamedova reported about quarantine diseases of fruit crops in [Kazakhstan](#). She presented ownership and distribution of gardens on the national territory. The main pathogens of fruit trees in Kazakhstan are *Erwinia amylovora* and *Plum Pox Virus*. Their distribution on the national territory was presented and collaboration with Euphresco on *Erwinia amylovora* was described.

Mr Perevertin presented the assessment of [climatic risks](#) in the practice of plant quarantine and protection based on the mathematical games theory. He stressed that theoretical discussions about climate changes have no sense: the climatic risks should be discussed in the context of agricultural practices where they could be critical. He distinguished three types of impact on climatically based processes in biological communities: (1) activation of pests present, (2) extension of existing pest areas and (3) increase of suitability of areas for new quarantine pests.

Ms Yakimovich presented the phytosanitary situation in [Belarus Republic](#) with description of the national territory, cultivated agricultural crops, plant protection products. NPPO structure, research institutions and laboratories working in plant protection and their main activities covering diagnostics, monitoring, prognoses, biological and chemical plant protection, economic thresholds etc. were also presented. She reported about the main pests causing important damages to plants in Belarus. The main A2 regulated pests are *Globodera rostochiensis*, *Clavibacter michiganensis subsp sepedonicum*, *Synchytrium endobioticum*, *Erwinia amylovora*, *Cuscuta sp.*, *Ambrosia artemisiifolia* and *Diabrotica virgifera*.

Mr Pridannikov reported about the structure and the main activities of the Centre of Parasitology of [Russian Academy of Sciences](#). Plant protection research is conducted by the Laboratory of Phytoparasitology which focusses on the study of plant nematodes including their taxonomy, the relationship with plants and the ecosystem (mainly fungi and bacteria), modelling nematodes' impact on plants and control measures.

Mr Upadyshev reported about studies conducted by the Department of Biotechnology and Plant Protection of the [Russian National Institute for Breeding, Agrotechnology and Nursery](#) on viral diseases of fruit and berry crops. He presented the structure of the Department, its main activities, published materials and the methods for the diagnosis and the management of viruses (including chemotherapy and magnetotherapy).

Mr Golovin presented [Russian activities](#) on the study and diagnosis of *Phytophthora* spp and *Colletotrichum acutatum* on raspberries and strawberries. The studies on pathogen's frequency were conducted from 1991 and 2008; in more recent years studies were conducted on the development of diagnostic tests.

Mr Shestepërov presented a model of *Globodera rostochiensis* dynamics while growing non-host plants in the infested areas.

Common Strategic Research Agenda

Ms Blümel presented the work on the ERA-Net [Strategic Research Agenda](#) developed in 2010. The document provided a common basis to identify important research areas, to summarise national research and structural requirements and proposed a strategic approach to solve problems. The main thematic research areas addressed were: a) detection and identification methods, b) support for pest risk analysis, c) intervention strategies, d) support for infrastructures, e) the impact of climate change on plant health.

Mr Giovani explained that a [new Research Agenda](#) is currently under preparation and will be published early in 2017. The agenda will be organised around the research priorities identified by research funders and EPPO Panel experts. Various stakeholders have been identified and they also provided their points of view.

Conclusions

Minister Valery Nikolaevich Koreshkov acknowledged the success of the event and proposed that similar workshops are held in the future.

Mr Ward thanked the EEC for their hosting and local organisation. This had been an excellent example of the way in which EPPO and the EEC can collaborate. He also suggested that FAO could follow Euphresco activities as an advisor and discussions on how to engage should be undertaken in the next months. Involving FAO will also ensure that research data remain accessible to countries that do not have the resources to be more actively involved in Euphresco activities.

Mr Giovani will contact the participants to the workshop and will provide them with updated information on the research projects that could be potentially funded in 2016, in order for the researchers to be involved if there is interest.