

## Plant and Food Biosecurity (PLANTFOODSEC)



### INVITATION

# WORKSHOP ON THE VIRTUAL DIAGNOSTIC NETWORK AND RISK ASSESSMENT TOOL FOR PLANT BIOSECURITY

SZENTENDRE, APRIL 22, 2015

**THE REGIONAL ENVIRONMENTAL CENTER FOR CENTRAL  
AND EASTERN EUROPE,**  
Ady Endre Ut 9-11, 2000 Szentendre, Hungary

The Plant and Food Biosecurity Network of Excellence (PLANTFOODSEC) is a project funded under the FP7 Security Programme. It deals with both intentional and unintentional biosecurity threats that have the capacity to affect and damage agriculture, infect plants, and ultimately affect food and feed at any stage in the supply chain. The project aims to enhance EU preparedness in the event of the deliberate or accidental introduction of the most threatening organisms harmful to plants (covering prevention, protection, response and recovery capacities).

On April 22, 2015, a workshop will take place in Szentendre, Hungary to present to stakeholders two practical tools developed by PLANTFOODSEC: the Virtual Diagnostic Network and the Risk Assessment Tool. Target user groups include representatives of phytosanitary services, statutory and non-statutory diagnostic laboratories, and field agronomists. The capabilities of the Virtual Diagnostic Network and Risk Assessment Tool will be introduced and there will be an opportunity to participate in demonstration cases. The final stages in the development of the network and tool during the remainder of the project period will be discussed, taking into account feedback from end users.

TIME	PROGRAMME	SPEAKERS
08.45 – 09.00	Registration	
09.00 – 09.15	Welcome	<b>Marta Szigeti Bonifert</b> Regional Environmental Center, Hungary <b>Maria Lodovica Gullino</b> AGROINNOVA, University of Turin, Italy <b>Philippe Quevauviller</b> DG Migration and Home Affairs, EU Commission
09.15 – 11.00	The PLANTFOODSEC Virtual Diagnostic Network	<b>Jane Thomas</b> National Institute of Agricultural Botany, United Kingdom <b>James Stack</b> Kansas State University, United States of America <b>Paul Verrier</b> National Institute of Agricultural Botany, United Kingdom
11.00 – 11.30	Coffee break	
11.30 – 13.00	The PLANTFOODSEC Risk Assessment Tool  A Buffet Lunch Will Follow	<b>John Mumford</b> Imperial College London, United Kingdom <b>Adrian Leach</b> Imperial College London, United Kingdom

For more information on how to register for this event, please contact Anita Kocic: [akocic@rec.org](mailto:akocic@rec.org), +36 504 000 (ext. 402)



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### ANNEX

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#### BACKGROUND ON PLANT BIOSECURITY

The term **"biosecurity"** refers to **protection from harm caused by biological agents**. It covers food safety, zoonoses, the introduction of animal and plant diseases and pests, the introduction and release of living modified organisms (LMOs) and their products (e.g. genetically modified organisms or GMOs), and the introduction and management of invasive alien species. **Biosecurity thus encompasses food safety, animal life and health, and plant life and health, including associated environmental risks.** Interest in biosecurity has risen considerably over the last decade in parallel with the increasing trade in food and plant and animal products. **Plant biosecurity** has been defined as **the protection of natural and managed plant systems from the emergence/introduction of pests that would negatively affect the productivity, sustainability or diversity of plant systems.** Plant health is of global importance for sustainable agriculture, food security and environmental protection. **The introduction and spread of plant pests among food crops and other socioeconomically important plant species can have very significant consequences.** The most direct economic impacts of pests on the agricultural and forestry sectors are the loss or reduced efficiency of production and the costs associated with pest management, including the costs of inspection, monitoring, prevention and response. In addition, **transboundary plant pests also have significant negative impacts on global food security.** Although it is estimated that a 50 percent increase in food production will be needed by 2050, currently a quarter of the world's crops are lost to pests. **Protecting plants against losses throughout the "farm to fork" chain is critical to meeting the food security agenda.** Pests can affect ecosystem services either directly through the removal of plants that provide services, or indirectly through the effects of disease management activities, including pesticide application. The full cost of plant pests is difficult to quantify, as their vast negative impact is complex and has economic, ecological, environmental, social and health aspects. **In world agriculture, introduced pests have been estimated to cause annual losses of between USD 55 billion and USD 248 billion.**

#### BIOTERRORISM: A REAL THREAT TO HUMAN HEALTH AND TO ECONOMIC, SOCIAL AND POLITICAL SYSTEMS

**Agricultural bioterrorism, or agroterrorism,** is a specific type of bioterrorism and **is defined as the deliberate introduction of an animal or plant disease or pest with the goal of generating fear, causing economic losses, and/or undermining environmental, social and economic stability.** The potential for terrorist attacks or other criminal actions against agricultural targets is increasingly recognised as a threat to international security, especially following the events of September 11, 2001. **Agriculture and related sectors upstream and downstream are essential to the social, economic and political stability of all nations.** The disruption of agricultural systems could have widespread and dramatic economic consequences in the food, feed and fibre sectors. Those affected could include farmers and input suppliers, processors, shippers, merchants, food retailers and the restaurant trade; upstream contributors such as the agrochemical industry; and even the tourism and transportation sectors.

#### THE PLANTFOODSEC PROJECT

**The goal of the PLANTFOODSEC project is to create a virtual research network in order to improve the quality and impact of training and research in relation to crop and food biosecurity in Europe, thus enhancing preparedness to prevent, respond to and recover from the possible use of plant pathogens or pests against crops in the European agro-food system.** The project provides timely scientific inputs to enable a response to the threat posed to European agriculture, farming and the agro-food industry by agroterrorism; to assist in developing preventive and suppressive crisis management; and to implement specific European policies. **The project also aims to improve the level of training available to network partners and to promote the sharing of project results between all partners, thus creating a network with the practical skills to achieve the overall project goal. The end users of the project outcomes are expected to be national and European authorities responsible for plant health and security.**



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#### THE PLANTFOODSEC VIRTUAL DIAGNOSTIC NETWORK

PLANTFOODSEC is developing a **web-based diagnostic network to facilitate international laboratory cooperation and improve plant health surveillance**. The network focuses on **information and laboratory support systems** rather than 'alert' and 'action' mechanisms and is intended to complement the work of statutory and regulatory laboratories. **There are significant gaps in coordinated diagnostic communication across Europe**: many state diagnostic labs have been privatised, and there are many advisory labs across Europe that do not have easy recourse to comprehensive specialist skills. **The primary users of the network will be laboratories**, although the structure also allows individuals such as **agronomists and advisors** to upload details and/or pictures of disease outbreaks. Providing these labs with a central information resource will enhance national capabilities to identify unusual occurrences or spot emerging problems, thus contributing to surveillance mechanisms and potentially accelerating responses. **By joining the network, diagnostic labs will extend the "eyes and ears" that monitor crops**.

The network includes pathogen and host libraries; pages for identifying laboratories and their location, skills and facilities; and a **"look-up" facility to find expert labs on specific pathogenic organisms**.

User labs will have the opportunity to upload diagnostic records and obtain summary information back from the system about current disease outbreaks in their own country and further afield. **"Community" pages are being designed**, allowing the network to **provide information on diagnostic protocol development, current methods, training and accreditation courses, workshops and news of emerging pathogen problems**.

**The workshop will provide an opportunity to introduce the capabilities of the network**. The diagnostic laboratory and community information pages will be demonstrated, together with the facility for uploading diagnostic outcomes from laboratory tests or records of disease outbreaks from field agronomists, along with the capabilities for interrogating these data. Similar networks exist in the US and Australia, and US experience in the field will be presented. **The final stages of development during the remainder of the project period will be discussed**, including a facility to link labs and provide web-enabled microscopy for sample examination.

#### THE PLANTFOODSEC RISK ASSESSMENT TOOL

**Crop biosecurity focuses on preventing and responding to the accidental introduction, establishment and spread of pests or pathogens**. Governments and industries limit these introductions through trade standards, regulated mitigation measures, public and private surveillance of new organisms, and outbreak control capacity. **There has been increasing concern about the deliberate release of biological agents against agriculture** for criminal gain, to generate fear and/or undermine social stability. **These threats (including the motives and capabilities of potential attackers) have been added to those included in conventional trade-driven pest risk analysis (agents, pathways and receptors) in order to develop a risk evaluation scheme**. This is applied within a rule-based model to generate assessments across a range of cases, in a manner comparable to conventional pest risks, in order to enable rapid assessments of potential scenario-based threats. The tool combines expert-elicited information concerning the agent (pathogen), pathway (method of introduction) and agro-ecosystem (ecology, climate, vulnerability) in order to provide a comparative measure of risk.

**During the workshop, the PLANTFOODSEC Risk Assessment Tool will be presented and demonstrated using a relevant pest/crop/scenario combination.**