

Members of the consortium

Project Coordinator:



Project Partners:

Hungarian Grain and Feed Association (HU)

Greek Associations of Traders and Exporters
of Cereal By-products and Feeds (GR)

Confederacion Espanola de Fabricantes
de Alimentos Compuestos para Animales (ES)

Asociación Espanola de Fabricantes
de Masas Congeladas (ES)

Synagra (BE)

Impuls (PO)

OSV (IT)

Dunagabona (HU)

Dimitriaki S.A (GR)

Hogeschool Gent (BE)

Universiteit Gent (BE)

Lunds Universitet (SE)

Union of Agricultural Cooperatives of Rethymo (GR)

Evaluation technologiques,
Ingénierie et Applications ETIA (FR)

Veluwe Granen BV (HL)

Electrochemical Sensor and Technology Ltd (UK)

MYCOHUNT

Project facts

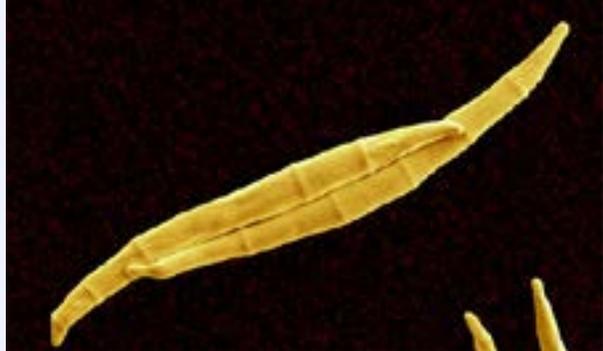
Project start: 2010-09-01
Project duration: 36 months
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MYCOHUNT

RAPID BIOSENSOR FOR THE DETECTION OF MYCOTOXIN IN WHEAT



The MYCOHUNT project is co-funded by the European Commission in the 7th Framework Programme under the Grant Agreement n° 243633



THE NEED

Most mycotoxins are known to hazardously contaminate crops and consequently animal feeds and animal products, causing significant **economic losses** associated with their **impact on animal and human health, animal productivity and domestic and international trade**. The European Union is setting **stricter and stricter limits of mycotoxin concentrations** in grains. Deoxynivalenol (DON) one of the mycotoxins that are formed by a number of species of *Fusarium* is nearly always formed before harvest when crops are invaded by certain species of such as *F. graminearum* and *F. culmorum*.



THE GOAL

The goal of the MYCOHUNT project would be twofold:

- a **new sampling technique guaranteeing a 90% bulk transparency,**
- a **biosensor technology for the detection of deoxynivalenol.**

The MycoHunt project aims at increasing the competitiveness of a large group of SMEs by developing a cost-effective method to detect infection of DON in wheat grains, a major threat to the food and feed sector of the European industry. A group of SME Associations, covering the two sectors and representing vast number of SMEs, have put together this project in order to gain knowledge and resources to further exploit the results of the novel technology proposed by providing a thorough sampling and measurement method of grain.

The economic consequences of mycotoxin infection to animal husbandry and the cost of infected crop to farmers as well as mill and storage house owners are of increasing concern while human health and safety effects are and must be addressed additionally.

Our overall goal is to provide a solution by an easy-to-use, cost-effective, environmentally friendly, on-site operating device to fight against the mycotoxin infection.



PROJECT OBJECTIVES

THE OVERALL OBJECTIVES ARE:

- A) to investigate, develop and validate a system for the sampling and detection of DON in wheat samples
- B) to train European cereal handlers the use of the device and
- C) to exploit the results through the partner technical SMEs and SME-AGs.

MORE SPECIFICALLY:

- Develop an effective, non-destructive sampling apparatus in order to assure adequately representative measurement aiming at 90% correlation with the bulk samples.
- The understanding and determination of parameters (temperature, pressure, vacuum, etc.) affecting the sampling precision avoiding the damaging of grain.
- To develop immobilizing methods for sensitive antibodies, and assess different approaches to enhance sensitivity, reproducibility, life-time, detection range, detection limit, and/or other specifications.
- The investigation of the cross-reactivity in order to develop selective antibodies for the biosensor.
- To realize a commercial price for the sensor while keeping the price of the whole apparatus low.
- To perform training activities addressed to the SME members of the SME Associations.
- Technology transfer will be carried out to present the project results.
- To develop a sound dissemination plan to deliver at least 4 workshops, presenting the results of the project in European conferences and specialized magazines.