

Monitoring and Reduction of Mycotoxins in Food and Feed: Outputs of Recent European Research



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*Quarto workshop su: Gestione dell'innovazione nei sistemi
agroalimentari della regione mediterranea*

From FP6 to FP7

RAPID METHODS for MULTIPLEX DETECTION



New Technologies to Screen
Multiple Chemical
Contaminants in Food



COntaminants in Food and
Feed: Inexpensive DETection
for Control of ExpoSsure

Development of **concept of multiplex detection applied to rapid methods.**
Ability to detect many contaminants in a single analysis.

Validation and application of multiplex technologies addressing regulatory needs.
Matrices/contaminants ⇨ Legislation in force
Sensitivity ⇨ Maximum permitted levels
Validation ⇨ Official control purposes



CONFIDENCE (FP7)

Pesticides

Veterinary drugs

Heavy metals



COntaminants in **F**ood and
Feed: **I**nexpensive **DE**tectio**N**
for **C**ontrol of **E**xposu**r**e

Marine toxins

Alcaloids

MYCOTOXINS

www.confidence.eu

- Collaborative project, thematic priority: **Food, Agriculture & Biotechnology**
- Duration of the project: 2008-2012
- 18 Partners

- Development of new **simplified inexpensive detection methods for chemical contaminants from farm to fork** in order to ensure chemical safety and quality in European food supply.

- WorkPackage devoted to ***Fusarium toxins***

WP 4c: Mycotoxins

Development of multiplex dipstick immunoassay for the detection of *Fusarium* toxins in cereals, cereal-based foods and feeds.



WP leader

Method development and validation



Antibody production



Dipstick design and assembly



Impact demonstration, exploitation of project results



Preparation of test materials



WP 4c, Mycotoxins: activity in progress

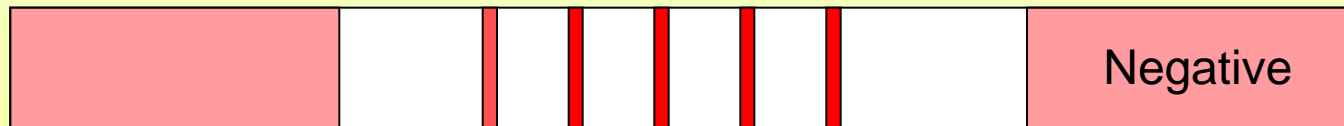
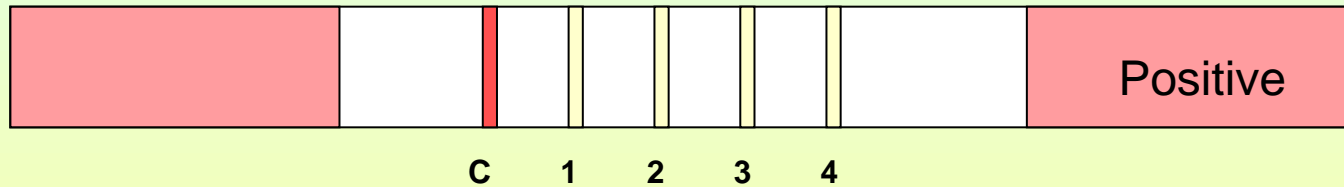
Development of **multiplex dipstick immunoassay** for the detection of *Fusarium* toxins in cereals, cereal-based foods and feeds.



→ Methanol/water
2 min blending



→ Dilution and
analysis



C: control line

1: Fumonisin

2: Zearalenone

3: Deoxynivalenol

4: T2/HT2 toxins



European Technology Platform “Food for Life”

Focuses on **effective integration of European research activities** in the nutritional, food and consumer sciences and food-chain management.

To address ETP challenges is highly recommended:

- ✓ to build EU proposal upon results of previous EU research activities
- ✓ to intensively cooperate with other EU research projects



Cross-validation of rapid methods for mycotoxin analysis