



EMAN

***European Mycotoxin
Awareness Network***

EUROPEAN COMMISSION (EC) FUNDED PROJECT

**Quality of Life and Management of Living Resources
Programme (QoL),**

Key Action 1 (KA1) on Food, Nutrition and Health.

QLK1-CT-2000-01248

www.mycotoxins.org



EMAN

***European Mycotoxin
Awareness Network***

**Co-ordinator: Richard Lawley,
Leatherhead Food International, UK**

**Partners: 14 institutions
throughout Europe with
expertise in mycotoxins**

Project Structure

WORKPACKAGE CO-ORDINATORS

Leatherhead Food International, UK

AFSSA, France

Cranfield University, UK

IFA-Tulln, Austria

CNR, Italy

WEJ, Germany

CNA, AESA, Spain

NATIONAL CONTACT POINTS

NVI, Norway

NFC, Ireland

SLV, Sweden

DTIA, INETI, Portugal

KVL, Denmark

GCSL, Greece

INHP, The Netherlands

Industry

Government

Academia



EMAN

European Mycotoxin Awareness Network

AIMS AND OBJECTIVES

- **To establish communication links between individuals, businesses, or organisations that are affected by mycotoxin-related issues.**
- **To establish a regularly updated, interactive web site and update network members by e-mail.**
- **To provide accurate accessible information through fact sheets, on-line training courses, workshops, and news updates.**
- **To continue the network on a self-financing basis after the funding period.**

Network Activities

- **Dissemination within EU**
- **Information/Fact Sheets**
 - via web-site and printed material
- **Training Courses**
 - via web-site
- **Newsletters & Latest News**
 - via web-site and printed material
- **Conferences/workshops**
- **Establishing Reference/Literature database**

Information/Fact Sheets

15 Basic Fact Sheets

- **Introduction to Mycotoxins**
- **Aflatoxins**
- **Ochratoxins**
- **Deoxynivalenol**
- **Fumonisin**
- **Patulin**
- **Zearalenone**
- **Trichothecenes**
- **Citrinin**
- **Cyclopiazonic acid**
- **Moniliformin**
- **Sterigmatocystin**
- **Mycotoxins from Alternaria**
- **Ergot Alkaloids**
- **Other Mycotoxins**

Information/Fact Sheets

46 Further (Expert) Fact Sheets

- **Test Kits/Rapid Methods** 4
- **Analytical Methods** 13
- **HACCP and Prevention** 6
- **Evaluation of Processing and Risk Assessment** 7
- **Quality Assurance** 7
- **Sampling and Legislation** 5
- **Surveillance and Occurrence** 4

Example

Fact Sheet 2 - Aflatoxins



European Mycotoxin Awareness
Network



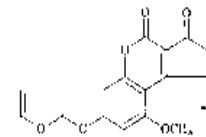
- About EMAN
- Fact Sheets
- Contact EMAN
- Links
- Newsletter
- Home Page
- Test Kits
- Analytical Methods
- HACCP/Prevention
- Evaluation and Risk
- Quality Assurance
- Sampling/Legislation
- Surveillance



Fact sheet 2 THE AFLATOXINS

Naturally occurring aflatoxins

Aflatoxins consist of a group of approximately 20 related fungal metabolites, although only aflatoxins B₁, B₂, G₁ and G₂ are normally found in foods. Aflatoxins B₂ and G₂ are the dihydro derivatives of the parent compounds. They are produced by at least three species of *Aspergillus*, *A. flavus*, *A. parasiticus* and *A. nominus*, and can occur in a wide range of important raw food commodities, including cereals, nuts, spices, figs and dried fruit.



Aflatoxin B₁

Although the highest concentrations are formed in food crops grown and stored in the warmer areas of the world, the international trading of these important commodities ensures that aflatoxins are not only a problem for the producing nations but are also of concern for importing countries. Aflatoxins M₁ and M₂ are the hydroxylated metabolites of aflatoxins B₁ and B₂ and are produced when cows or other ruminants ingest feed contaminated with these mycotoxins. They are then excreted in the milk and may subsequently contaminate other dairy products such as cheese and yoghurt.

Chemical and physical properties

Training Courses

Eight Training Courses - via web-site

<i>Rapid Methods</i>	1
<i>Analytical Methodology</i>	2
<i>HACCP and Prevention</i>	2
<i>Processing Effects</i>	1
<i>Quality Assurance</i>	1
<i>Sampling and Legislation</i>	1

Example

Analytical Methods

Training Course 1

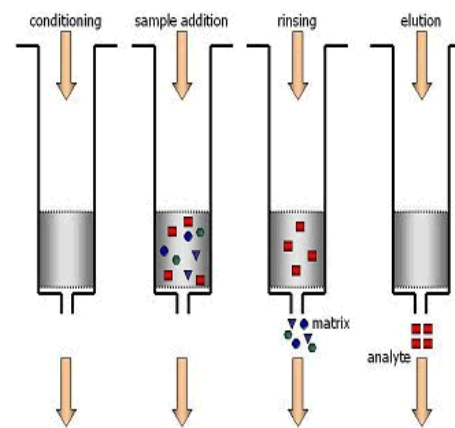


Figure 3: A typical SPE sequence

Sorbents for SPE include octadecyl bonded silica and porous styrene divinylbenzene copolymers for reversed phase separation, which are suitable for non-polar and medium polar analytes. C_8 and C_{18} bonded silica columns are most frequently used as they are very pressure resistant and give reproducible results. They can however only be operated at a pH from 2-10. The capacity of SPE columns can be determined by recording breakthrough curves.

SPE does not have any significant drawbacks compared to conventional liquid-liquid separation, but consumes far less solvent and can be automated. Additionally less time is needed and percolation of samples in the field is possible.

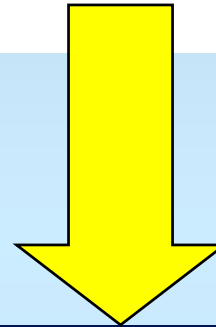
Silica gel cartridges are frequently used for Ochratoxin A and florisol, cyano and C_{18} columns find widespread application in the determination of A-trichothecenes.

[Click here for Question 1](#)

Newsletters

- Overview
- Details of Progress
- Future Work

From each
workpackage



Latest News

- Updated regularly (via the web site)
- Brief news items and events
- Web Links to further information

EMAN Latest News - Examples


European Mycotoxin Awareness Network - EMAN - for an understanding of mycotoxin - Microsoft Internet Explorer

File Edit View Favorites Tools Help



Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Dell Home

Address <http://www.lfra.co.uk/eman2/index.asp> Go

Links Best of the Web Channel Guide Customize Links Free HotMail Internet Start Microsoft Windows Update Windows



European Mycotoxin Awareness Network



- About EMAN
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- Test Kits
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The European Mycotoxin Awareness Network (EMAN) is a European Commission (EC) funded project, which is co-ordinated by Leatherhead Food International (UK). Fourteen leading mycotoxin institutions in Europe are the partners of the project, providing the most up-to-date information on all areas of mycotoxins.

EMAN aims to bring the research community closer to the food industry by making data and information available through the web.

Latest News

[New EC measures to limit patulin in apple products](#)
Wednesday, August 13, 2003 : EC press release

[EC reviews controls for imported nuts and figs](#)
Monday, August 04, 2003 :

[EC imposes special import conditions for Brazil nuts](#)
Thursday, July 10, 2003 :

[Workshop on trichothecenes](#)
Monday, June 16, 2003 :

[Mycotoxin conference \(Bath, UK\)](#)
Tuesday, June 10, 2003 :

For a detailed explanation about the network in various languages, and information about the experts involved in EMAN, please [click here](#).

Should you wish to be alerted with the latest information about Mycotoxins and EMAN, please [click here](#).



Successes To Date

Web site: www.mycotoxins.org

- **The site is visited by over 5,000 visitors per month**
- **Each visitor views an average of 4 pages**
- **The site tops lists of search results for 'mycotoxins' in major search engines**
- **Registered subscribers - 950**

Enquiries

- **More than 600 enquiries have been received through the Web site.**
- **Examples**
 - *aflatoxicosis in wild birds from seeds/cereals*
 - *risks from mould in museum artefacts*
 - *information on reference material for zearalenone analysis*
 - *a farmer from the Netherlands enquiring about fumonisins*
 - *A laboratory in Kenya requesting more information on aflatoxin M₁ in milk*



The Future For EMAN

NETWORK STRUCTURE

- **Non-profit-making organization**
- **Working Partners**
- **Supporting Partners**
- **Steering Group**
- **Funding through sponsorship**
 - *Six sponsors have already signed up and several more have made enquiries*



The Future For EMAN

WORKING PARTNERS

- **Work package responsibilities**
- **Development of additional workpackages**
- **Provision of updated Fact Sheets, Training Courses and news items**
- **Expert response to enquiries**
- **Dissemination activities**



The Future For EMAN

SUPPORTING PARTNERS

- **Assist with dissemination, promotion, and funding of EMAN activities and information**
- **Help with preparation of material for specific target audiences**
- **Supply information or news items for the EMAN web site**

Examples: Organisations representing Government, the food and feed industries, consumers, the research community, agriculture, and medicine.



The Future For EMAN

FUTURE ACTIVITIES

- **Maintenance of communication links**
- **Development of the web-site as a 'portal' for mycotoxin-related information**
- **Addition of information/links from supporting partners**
- **Information targeted at specific stakeholder groups**
- **Web-based searchable reference database**

Depending on the availability of sufficient sponsorship