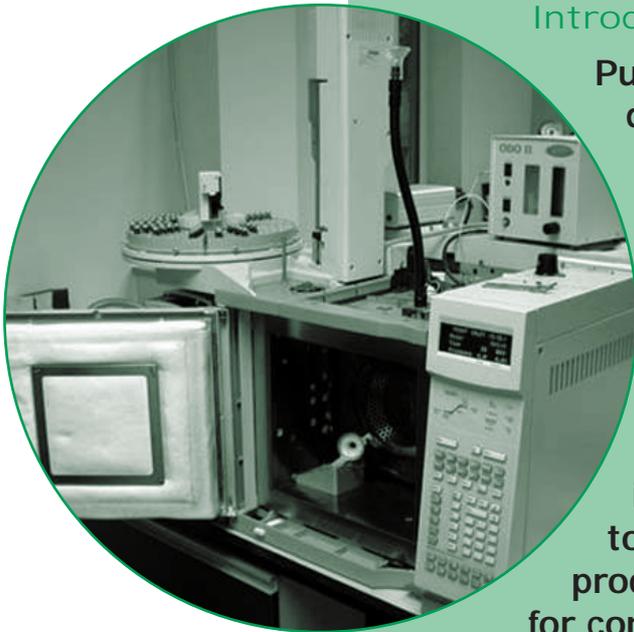


Monitoring for potential grain contaminants

Introduction

Purchasers and end-users of grain and grain-derived co-products need assurance that what they buy is safe and meets legal levels for contaminants, such as pesticides, mycotoxins and heavy metals.

Annual monitoring helps both to provide the representative and independently analysed data and to deliver a base-level risk assessment on which the industry can develop its own risk-based sampling and analysis. Results to date show that UK grain and grain-derived co-products are safe and that samples exceeding limits for contaminants are rarely found.



HGCA has funded three projects since 2003 to monitor aspects of grain quality. From 2006, a single, co-ordinated project (no. 3100) led by Dr Denise Baxter, BRi will co-ordinate the monitoring for potential contaminants of grain and grain-derived co-products.

Need for surveillance

Grain purchasers and end-users increasingly need information on potential contaminants as part of the process of demonstrating due diligence within their own operations. The Food Standards Agency (FSA) may also use such data in EU negotiations on new legislation.

Operation of an industry-wide surveillance scheme testing grain samples of known provenance will give the UK a strong lead in both satisfying due diligence requirements and in giving individual companies an ability to determine the frequency of their own sampling and testing programmes. Such a system lends itself easily, if required, to extension to new contaminants.

Co-ordinated monitoring

Since 2003, HGCA has funded three projects to monitor aspects of grain quality:

- malting barley and malt carried out by Brewing Research International – BRi (co-funded by MAGB)
- milling wheat carried out by Campden and Chorleywood Food Research Association (CCFRA)
- grain and grain-derived co-products for animal feed managed by BRi and carried out jointly by BRi and CCFRA.

From 2006 onwards, Dr Denise Baxter at BRi will manage this work as one project in partnership with CCFRA, the Agricultural Industries Confederation (AIC), MAGB and nabim.

Further information:

Dr Denise Baxter, BRI
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Project Report 380
(malting barley and malt)

Project Report 387*
(animal feed)

Dr Susan Salmon, CCFRA
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Project Report 386*
(milling wheat)

* to be published February 2006

Survey of wheat for
Ochratoxin A (2005)
FSA report 77/05

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Provision and analysis of samples

Companies within each sector provide samples, collected at intake, of grain and grain-derived co-products entering the food and feed chains. Sampling methodology and timing, sample number, and geographic distribution, are agreed each year to provide a good representation of UK cereals as a whole.

Samples are analysed for several potential contaminants using official EU methods. Analyses undertaken vary according to current concerns and are agreed each year with each industry sector based on risk analysis.

Summary of results to date

Malting barley and malt

Tests have shown UK malting barley and malt to be safe foods. Mycotoxin and pesticide levels were well below legal limits in 2003 and 2004. However, mycotoxins remain a key issue with the EC and with customers. Pesticide residues are a topic of increasing interest in certain key export markets.

Milling wheat

Tests have shown UK milling wheat to be safe. To date, residues of pesticides (primarily pirimiphos-methyl) have been below Maximum Residue Levels.

Ochratoxin A exceeded 5ppb in less than 1% of survey samples over three years. Following the wet 2004 harvest, the FSA conducted a survey of ochratoxin A levels in 115 samples of wheat. In those samples where ochratoxin A was detectable, levels were generally low and in each case below the regulatory limit for ochratoxin A in raw cereals.

Less than 1% of the survey samples exceeded 1250ppb, the level set from July 2006 as a maximum for deoxynivalenol (DON) concentration in unprocessed cereals destined for food use. Tests for zearalenone and heavy metal levels indicated no cause for concern.

Grain and grain-derived co-products for feed

Tests have shown UK feed grain and grain-derived co-products to be safe. In 2003, mycotoxin and pesticide residue levels in whole wheat or wheatfeed were well below existing or proposed limits.

Access to future results

Results will be disseminated through the participating trade associations [AIC, MAGB and the National Association of British and Irish Millers (nabim)]. Annual summary reports will also be posted on the HGCA website.

Key messages:

- Ongoing monitoring for contaminants in UK grain and products is vital to support home and overseas sales.
- Results to date have shown that UK grain is safe.
- Meeting new legal levels on contaminants relies on risk-based approaches to sampling and testing.
- Coordinated industry monitoring provides a basis for assessing the UKs ability to continue to meet these requirements.