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**EU and National Monitoring Plans for
Pesticides**

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Scope of presentation

- National monitoring plans e.g. UK
- EU Co-ordinated Programme
- Further sources of information


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***Pesticide Residues Committee
(PRC) - UK***

Independent of Government
Provides advice to:

- Ministers
- Chemicals Regulatory Agency (CRD)
- Food Standards Agency (FSA)



Responsible for:


- Planning the UK monitoring programme
- Evaluation of the results

Membership of the PRC




- Chairman – (Consultant Physician & Toxicologist)
- Two consumer representatives
- One toxicologist
- Three from the food/farming industries
- One appointed by FSA
- Assessors
- Scientific experts from CRD and Fera

Monitoring programme aims




- To check that pesticide residues in the diet:
 - do not affect consumer health
 - do not exceed legal trading levels (MRLs)
- Check for use of unauthorised pesticides
- Meet Commission Recommendation (2008/103/EC)



EU countries operate similar schemes

UK annual programme overview



- Costs 2 million Euros
- 35 to 40 different foods surveyed
- Around 4,000 samples analysed
- >200 pesticide residues sought in most surveys
- Targeted sampling

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Deciding what to analyse


- How important the food is in our diet
(consumption data obtained from the FSA)
- Based on information from previous surveys
- Pesticide usage data
- Other findings - industry / other countries
- EU Coordinated programme

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Sampling design

- Geographical
- Monthly
- Sampling points
 1. retail outlets
 2. wholesale
 3. ports


Based on market share



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Selection of commodities

Monitoring History		Apple, Dessert			
Last tested	2008	no. of times last 6 years	6		
SFVS		Top 10 adults	Top 10 toddlers	Top 10 children	Top 10 adults
		✓	✓	✓	✓
Incidence of residues					
MRL exceedance					
✓ 2007: diphemylamine in apples from Chile; carbaryl in apples from Chile 2006: dimethoate in apples from France; omethoate in apples from France 2004: captan in apples from Argentina 2003: dimethoate in apples from Brazil and France ✓ 2008: dimethoate in apples from Croatia, Poland; Omethoate in apples from Croatia, Poland; carbaryl in apples from Uruguay (2) 2007: carbendazim in apples from Chile, Poland (2) 2006: dimethoate in apples from Argentina, Hungary; Omethoate in apples from Argentina; monocrotophos in apples from Serbia; Phthalodactol in apples from Chile 2005: Dimethoate in apples from Poland; pyrimethanil in apples from Chile 2004: Drydemeton-methyl in apples from France, Italy; diphemylamine in apples from Italy; pyrimethanil in apples from Chile					
Pesticides to be sought		Proposed Survey			
Other supporting information		200 list			
Survey type		EU		Priority rating	
		EU		High ✓ Medium Low	


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Analyses undertaken

- 270 pesticides sought
- Multi-residue methods (MRMs) based on GC-MS(/MS) & LC-MS/MS
- Single class/residue methods (SRMs)
 - *chlormequat, ethephon, glyphosate, phenoxyacids, dithiocarbamates, maleic hydrazide, etc*


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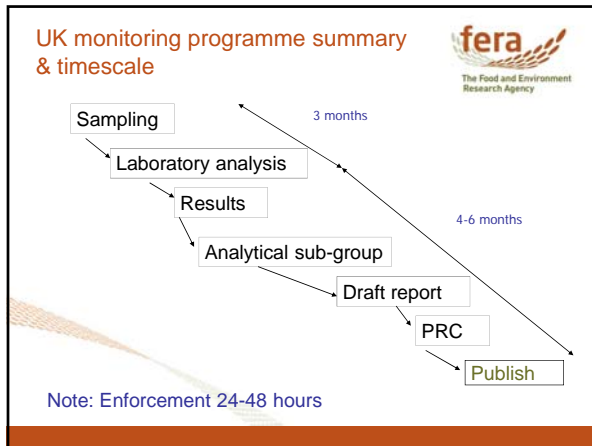
Types of survey

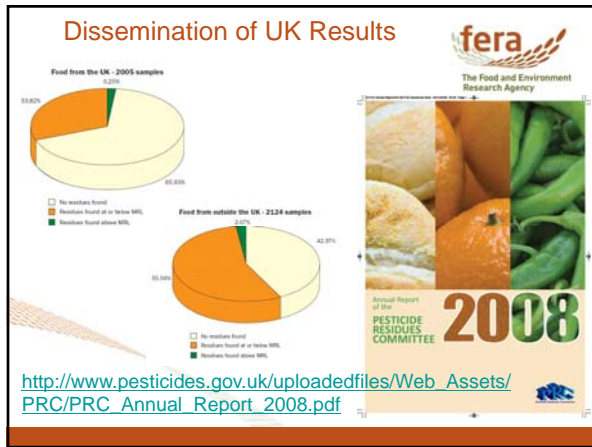
- Dietary staples (Bread, milk & potatoes)
 - 300 samples annually
- Rolling programme
 - Fruits & vegetables (>200 pesticides)
 - Cereals & cereal product (>100 pesticides)
 - Products of animal origin (>40 pesticides)
 - Others (infant foods, processed foods)
 - 36 to 300 samples per year
- EU harmonised programme
- Follow-up surveys


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Follow-up actions

- Notify retailer and brand owner
- Notifying authorities in exporting country
- Use the rapid alert system (RASFF) but only after risk assessment identifies a health concern
- Enforcement action







- ### UK Programme - findings/trends
- More residues detected
 - More multiple residues
 - Residues at lower levels
- because;
- More pesticides sought
 - Lower reporting limits (due to default MRLs of 0.01 mg/kg for non-approved pesticides)
 - More targeted surveys
 - Mixtures of modern pesticides used at lower rates

Apples  

Year	Number of pesticides sought	Reporting level (mg/kg)
1998	32	0.05 (some at 0.1)
2008	208	0.01

Apples  

	1998 (96 samples)	2008* (67 samples)
Total No. of Residues (all samples)	100	207
No. of different pesticides	13	40
max no. of residues found in one sample	3	11

* First 6 months samples only


Coordinated EU control programme 

Commission Regulation (EC) No 1213/2008

- 3-year cycle of 30 foodstuffs
- Consumer exposure to be monitored
- Application of EU legislation to be assessed

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European Union – 27 countries




Year	Countries joining	Total
1957	Belgium, France, West Germany, Italy, Luxembourg, Netherlands	6
1973	Denmark, Republic of Ireland, United Kingdom	9
1981	Greece	10
1986	Portugal, Spain	12
1995	Austria, Finland, Sweden	15
2004	Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia	25
2007	Bulgaria, Romania	27

EFTA States
Norway & Iceland

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European Union - Populations



EU	496 million
Germany	82 million
France	63 million
Luxemburg	0.5 million
Malta	0.4 million

• Sample numbers apportioned according to population

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Binomial probability distribution

- 642 samples of a product provides a > 99% detection of a sample containing a residue (> LOD) provided not less than 1% contain residues
- Sample numbers apportioned among MS's according to population (DE 93, MT 15). Minimum of 12 samples per product per year. Numbers for both multi-residue analysis and single residue analysis specified

Pesticide/product combinations to be monitored specified for 2009, 2010 & 2011



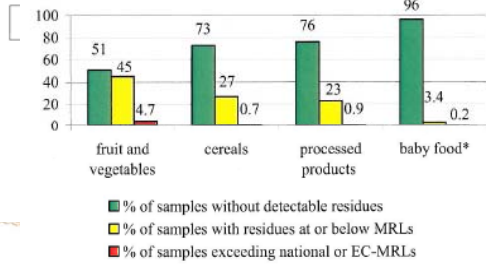
2009

Aubergines, bananas, cauliflower, grapes, orange juice, peas, peppers, wheat, butter, eggs

166 pesticides to be sought (as MRL residue definitions)

http://ec.europa.eu/food/plant/protection/pesticides/multi-annual_control_programmes_en.htm

EU monitoring report 2006



http://ec.europa.eu/food/fvo/specialreports/pesticides_index_en.htm

Findings EU & national in 2007



- 870 different pesticides (including metabolites) sought – Increase of 13%
- Average of 218 per country
- 354 different pesticides found in fruit & veg
- 72 different pesticides in cereals
- MRL exceedance rate fruit & veg 4.2%
- MRL exceedance rate cereals 1.4%
- MRL exceedance rate processed products 1.2%
- MRL exceedance rate baby foods 0.6%

Most frequently found pesticides



chlorpyrifos (I)	boscalid (F)
imazalil (F)	imidacloprid (I)
cyprodinol (F)	fenhexamid (F)
iprodione (F)	carbendazim (F)
thiabendazole (F)	azoxystrobin (F)
procymidone (F)	tebuconazole (F)
fludioxonil (F)	pyrimethanil (F)
dithiocarbamates (F)	myclobutanil (F)

(I) = insecticides, (F) = fungicides

Thank you for your attention



Useful websites for monitoring data:

UK

<http://www.pesticides.gov.uk/prc.asp?id+974>

EU

http://www.efsa.europa.eu/EFSA/efsa_locale-117862075812_121
