

Committed *since 2002*
to ensuring that Europe's food is safe



Annual Chemical Occurrence Data Collection

francesco.vernazza@efsa.europa.eu

Sofia, 14-15 May 2012

Summary:

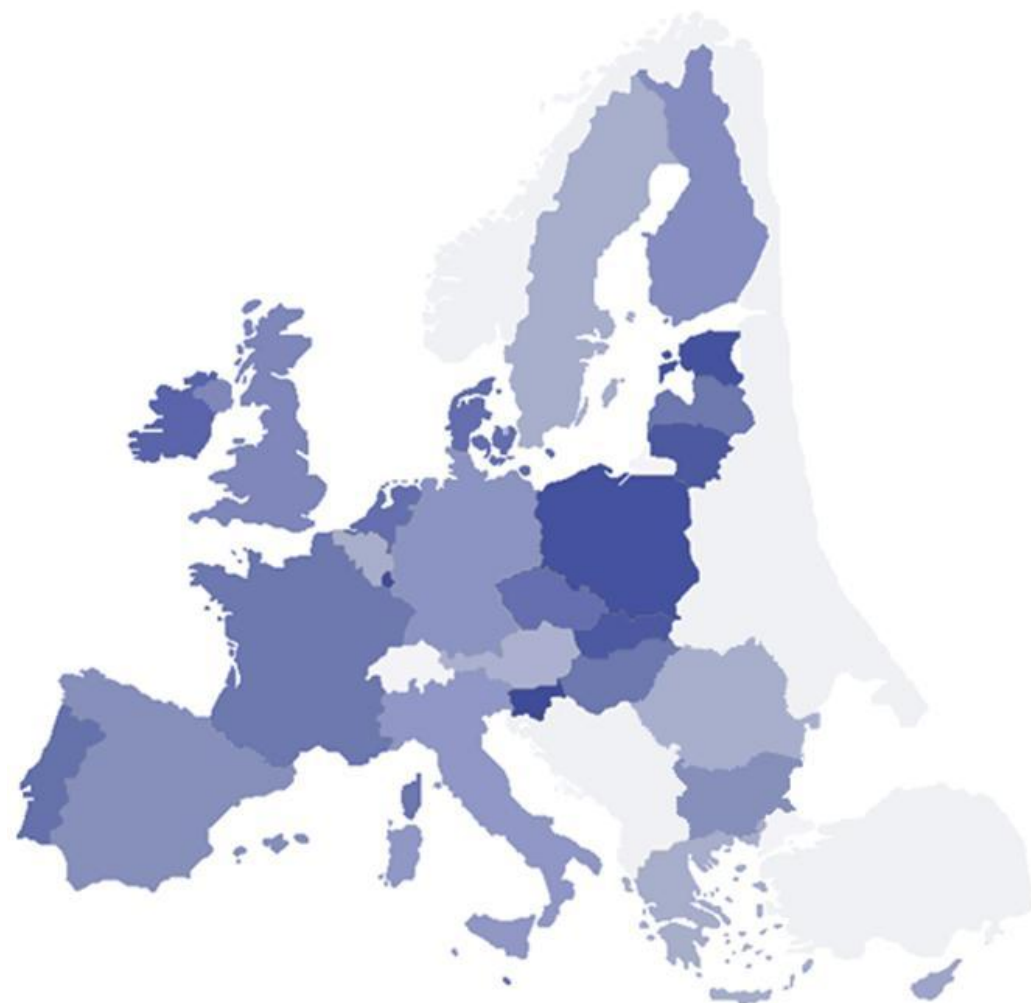
Data Collection: why?

Regulatory Framework & legal background

The call for data

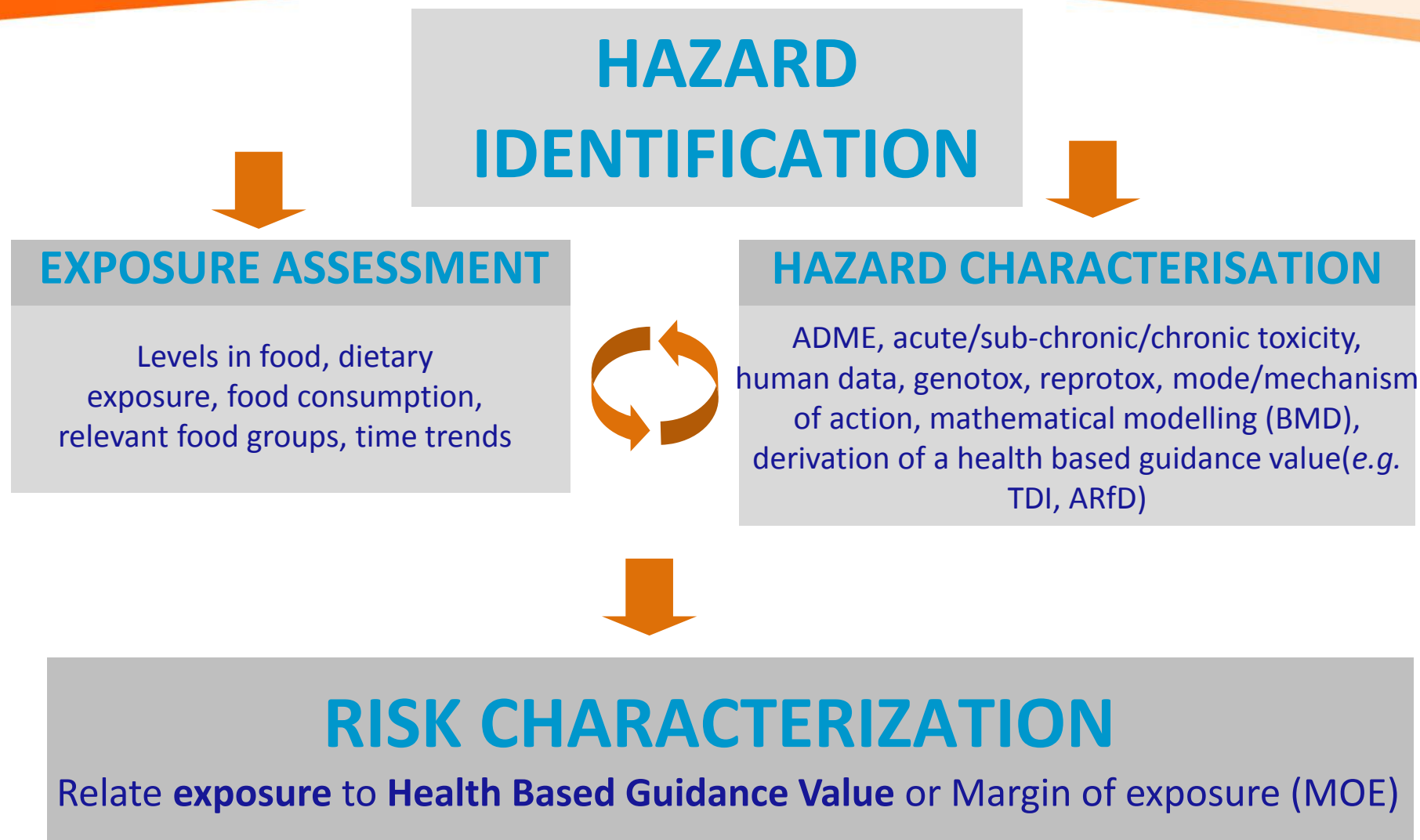
Last year's data collection

EFSA has no Laboratory



You are EFSA's Laboratories

Data are needed for Exposure Calculation at EU level



In order to support reliable scientific advice...

...and allow Risk Managers taking proper measures, chemical occurrence data must:

1. Be accurate, complete, compliant to the standards, well described;
2. Provide sufficient geographical coverage;
3. Represent all the food groups significant for consumption;
4. Reasonably represent the real food market share in each food group;
5. Provide in each food group sufficient number of samples to allow robust statistical treatment.

Summary:

Data Collection: why?

Regulatory Framework & legal background

The call for data

Last year's data collection

Article 44, Annual reports

1. ... every year, Member States shall submit to the Commission a report indicating:
 - (a) any amendments made to multi-annual national control plans to take account of the factors referred to in Article 42(3);
 - (b) the results of controls and audits conducted in the previous year under the provisions of the multi-annual national control plan;
 - (c) the type and number of cases of non-compliance identified;
 - (d) actions to ensure the effective operation of multi-annual national control plans, including enforcement action and its results.

2.

3. Member States shall finalise their reports and transmit them to the Commission, within six months of the end of the year to which the reports relate.

4. ... the Commission shall establish an annual report on the overall operation of official controls in Member States. interest.

=> No request for occurrence data

implementing Regulation (EC) No 882/2004 of the European Parliament and of the Council as regards the increased level of official controls on imports of certain feed and food of non-animal origin and amending Decision 2006/504/EC

Article 15

1. Member States shall submit to the Commission a report on consignments, for the purposes of a continuous assessment of the feed and food of non-animal origin listed in Annex I. That report shall be submitted quarterly by the end of the month following each quarter.
2. The report shall include the following information:
 - (a) details of each consignment, including:
 - (i) the size in terms of net weight of the consignment;
 - (ii) the country of origin of each consignment;
 - (b) the number of consignments subjected to sampling for analysis;
 - (c) the results of the checks as provided for in Article 8(1);

amending Regulation (EC) No 1881/2006 as regards maximum levels for nitrates in foodstuffs

Article 1

Regulation (EC) No 1881/2006 is amended as follows:

1. Member States shall monitor nitrate levels in vegetables which may contain significant levels, in particular green leaf vegetables, and **communicate the result to EFSA on a regular basis.**

...Given that EFSA has been mandated by the Commission to compile all occurrence data on contaminants, including nitrates, in food into one database, **it is appropriate to communicate the results directly to EFSA...**

amending Regulation (EC) No 1881/2006 setting maximum levels for certain contaminants in foodstuffs

Article 1

2. Member States and interested parties shall communicate each year to the Commission the results of investigations undertaken and the progress with regard to the application of prevention measures to avoid contamination by ochratoxin A, deoxynivalenol, zearalenone, fumonisin B 1 and B 2 , T-2 and HT-2 toxin. The Commission shall make the results available to the Member States. **The related occurrence data shall be reported to EFSA.**

3. Member States shall report to the Commission findings on aflatoxins obtained in accordance with Commission Regulation (EC) No 1152/2009 (*). Member States should report to EFSA findings on furan, ethylcarbamate, perfluoroalkylated substances and acrylamide ...

4. **Occurrence data on contaminants** collected by Member States should, if appropriate, also be **reported to EFSA.**

imposing special conditions governing the import of certain foodstuffs from certain third countries due to contamination risk by aflatoxins and repealing Decision 2006/504/EC

Article 7 Official controls

9. Member States shall submit to the Commission every three months a report of all analytical results of official controls on consignments of foodstuffs. That report shall be submitted during the month following each quarter.

on the monitoring of background levels of dioxins, dioxin-like PCBs and non-dioxin-like PCBs in foodstuffs

RECOMMENDS:

...

3. That Member States provide on a regular basis to the Commission the monitoring data with the information and in the format as foreseen in Annex II for compilation into one database.

Agreement to submit data to EFSA in the EFSA format

Article 33

3. The Member States shall take the necessary measures to enable the data they collect in the fields referred to in paragraphs 1 and 2 to be transmitted to the Authority.

It covers all data collections and includes contaminants not covered by legislation

Summary:

Data Collection: why?

Regulatory Framework & legal background

The call for data

Last year's data collection

Different calls for continuous data collection, aggregated in one 'big' call virtually covering all chemical contaminants in food and feed. Perspective of extension to also cover post-market monitoring of food additives (Reg. 1333/2008 EC)

Open Calls for data

Results 1 - 5 of 5

Call for continuous collection of chemical contaminants occurrence data in food and feed

Deadline: 1 October 2012

Call for scientific data on nickel and chromium (trivalent and hexavalent) levels in food and drinking water

Deadline: 1 October 2012

Call for scientific data on miscellaneous food additives permitted in the EU and belonging to several functional classes

Deadline: 15 August 2012

This call is on literature data (published papers). The call for analytical data on the same subject will follow soon

| POPs and other organic contaminants (OCC_GROUP1) |
|--|
| Alkyl phthalates |
| Phenolic compounds |
| Brominated flame retardans |
| Dioxins |
| Polychlorinated Biphenyls |
| Teq dioxins and PCBs |
| Perfluorinated compounds |
| Mineral oils |
| Brominated dioxins and furans |
| Melamine and analogues |
| Urea and derivatives |
| Organochlorine Compounds In Feed Regulated By Directive 2002/32/EC |

| Process Contaminants (OCC_GROUP2) |
|-----------------------------------|
| 3-MCPDs |
| Acrylamide |
| Polycyclic aromatic hydrocarbons |
| Furan |
| Hydroxymethylfurfural |
| Ethyl carbamate |

Occurrence group 3

| Toxins (OCC_GROUP3) | |
|--------------------------------|-------------------------|
| Azaspiracid-group toxins | Fusarenon X |
| Cyclic imines-group toxins | Sterigmatocystins |
| Ciguatoxin group toxins | Moniliformine |
| Domoic acid group toxins | Neosolaniol |
| Okadaic acid group toxins | Alternaria toxins |
| Palytoxin group toxins | Citrinin |
| Pectenotoxin group toxins | Beauvericin |
| Saxitoxin-group toxins | Enniatins |
| Yessotoxin group toxins | Phomopsins |
| Brevetoxins | Mycophenolic acid |
| Other Marine biotoxins | Other Mycotoxins |
| Ergot alkaloids | Pyrrolizidine alkaloids |
| Ochratoxins | Tropane alkaloids |
| Aflatoxins | Opium alkaloids |
| Patulin | Glucosinolates |
| T-2/HT-2 toxins | Free gossypol |
| Diacetoxyscirpenol | Hydrocyanic acid |
| Deoxynivalenol and derivatives | Theobromine |
| Nivalenol | Ricin |
| Zearalenone and derivatives | Abrin |
| Fumonisin | Croton I |
| Fusaric acid | Coumarin |
| | Other Phytotoxins |
| | Biogenic amines |

Occurrence group 4

Others (OCC_GROUP4)

| |
|---------------------------|
| Aluminum and derivatives |
| Antimony and derivatives |
| Arsenic and derivatives |
| Barium and derivatives |
| Beryllium and derivatives |
| Boron and derivatives |
| Bromine and derivatives |
| Cadmium and derivatives |
| Calcium and derivatives |
| Chlorine and derivatives |
| Chromium and derivatives |
| Cobalt and derivatives |
| Copper and derivatives |
| Cyanide and derivatives |
| Fluorine and derivatives |
| Iodine and derivatives |
| Iron and derivatives |
| Lead and derivatives |
| Lithium and derivatives |

| |
|----------------------------|
| Magnesium and derivatives |
| Manganese and derivatives |
| Mercury and derivatives |
| Molybdenum and derivatives |
| Nickel and derivatives |
| Nitrogen and derivatives |
| Phosphorus and derivatives |
| Potassium and derivatives |
| Selenium and derivatives |
| Silica and derivatives |
| Silver and derivatives |
| Sodium derivatives |
| Strontium and derivatives |
| Sulfur and derivatives |
| Thallium and derivatives |
| Tin and derivatives |
| Titanium and derivatives |
| Tungsten and derivatives |
| Uranium and derivatives |
| Vanadium and derivatives |
| Zinc and derivatives |

Still to be added, will contain entries
like:

Sorbic acid
Benzoic acid

...

Aspartame

...

BHA

BHT

...

Standard sample description, Electronic transmission and Data collection framework

GUIDANCE OF EFSA

Standard sample description for food and feed¹

European Food Safety Authority^{2, 3}

European Food Safety Authority (EFSA), Parma, Italy

Guidance on Data Exchange¹

European Food Safety Authority^{2, 3}

European Food Safety Authority (EFSA), Parma, Italy

Please follow the below steps when submitting data through the DCF:

1. Log into DCF by inserting the username and password received from EFSA
2. Choose the data collection for which you want to submit data among the following groups of chemicals (as defined in the mandate for "Continuous call for data collection"):
 - OCC_TEST: only for testing data submission of occurrence data;
 - OCC_GROUP1: POPs and other organic contaminants (e.g. dioxins and dioxin-like PCBs, non-dioxin-like PCBs, BFRs, PFAS, mineral oil hydrocarbons, organochlorine compounds);
 - OCC_GROUP2: process contaminants (e.g. 3-MCPD esters, ethyl carbamate, PAHs, furan, acrylamide);
 - OCC_GROUP3: toxins (e.g. marine biotoxins, mycotoxins, plant toxicants and other toxins of biological origin);
 - OCC_GROUP4: others (e.g. nitrates, lead, cadmium, arsenic, mercury, fluorine, nitrite etc...and other chemical substances not listed in the groups above).

XML.zip  (0.1 Mb)

Summary:

Data Collection: why?

Regulatory Framework & legal background

The call for data

Last year's data collection

Last year's data collection was the first one integrating all contaminants into a single call.

Submission of old data (not only those collected in 2010) was also requested, for this collection only. The list of priority substances also specified the period for the backlog.

As a rule of thumb, 5 years is the standard period taken into account for older data not yet submitted to EFSA, though it largely depends on the amount of data per year and the expected evolution of the contamination pattern.

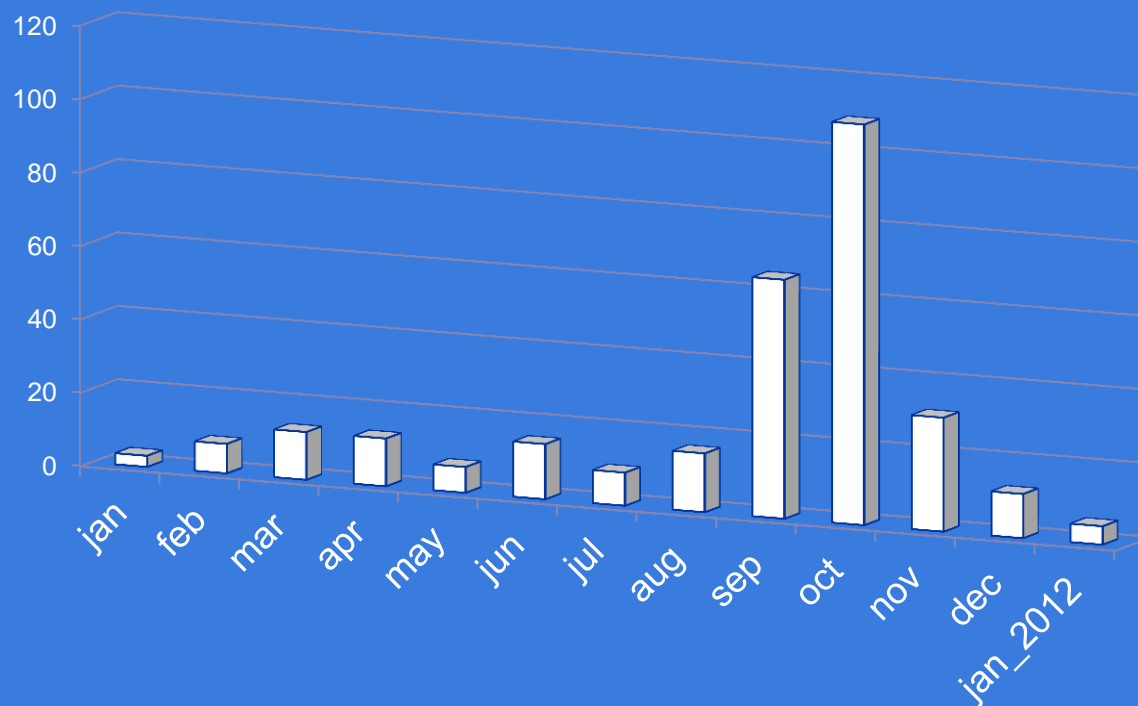
Data collection 2011:

- ☐ Start June 2011 (actually spread over all 2011)
- ☐ Deadline October 1st 2011
- ☐ Extension January 2012

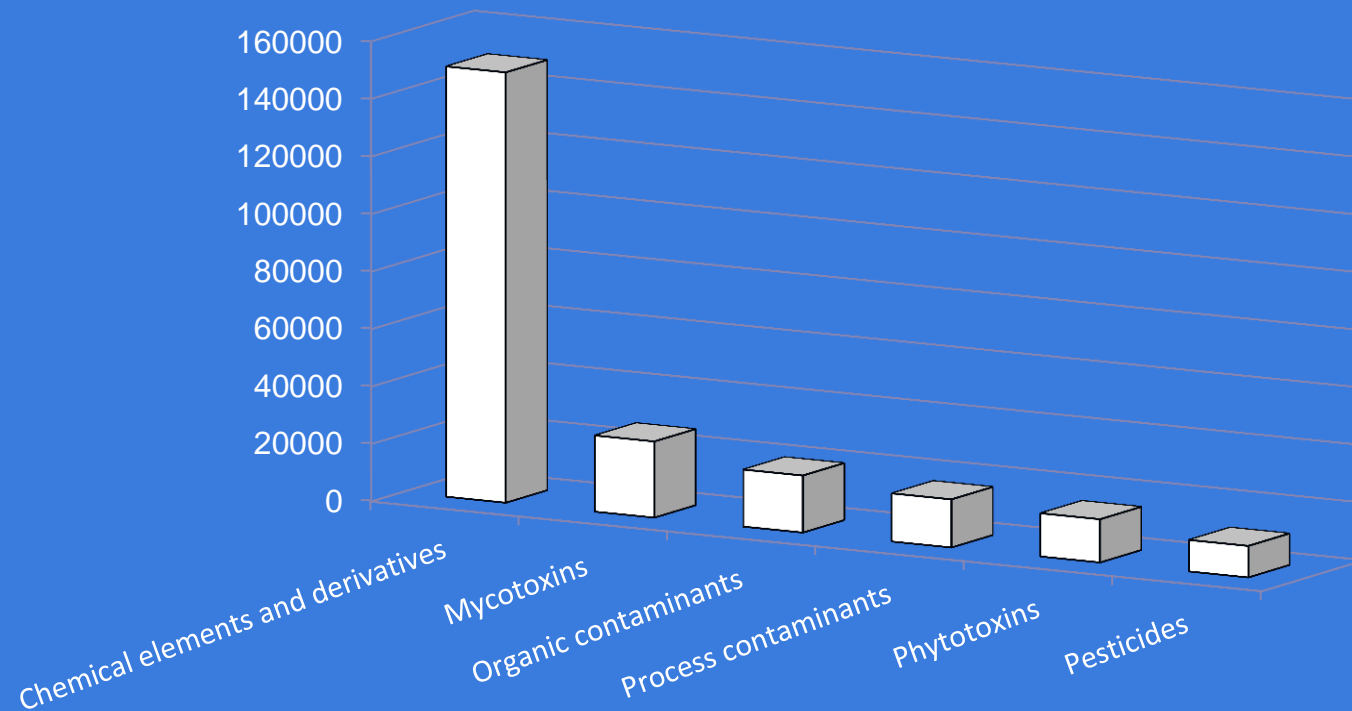
Data submission:

- ☐ More than 300 files uploaded
- ☐ Peak in September-October
- ☐ Total n. records \approx 950000

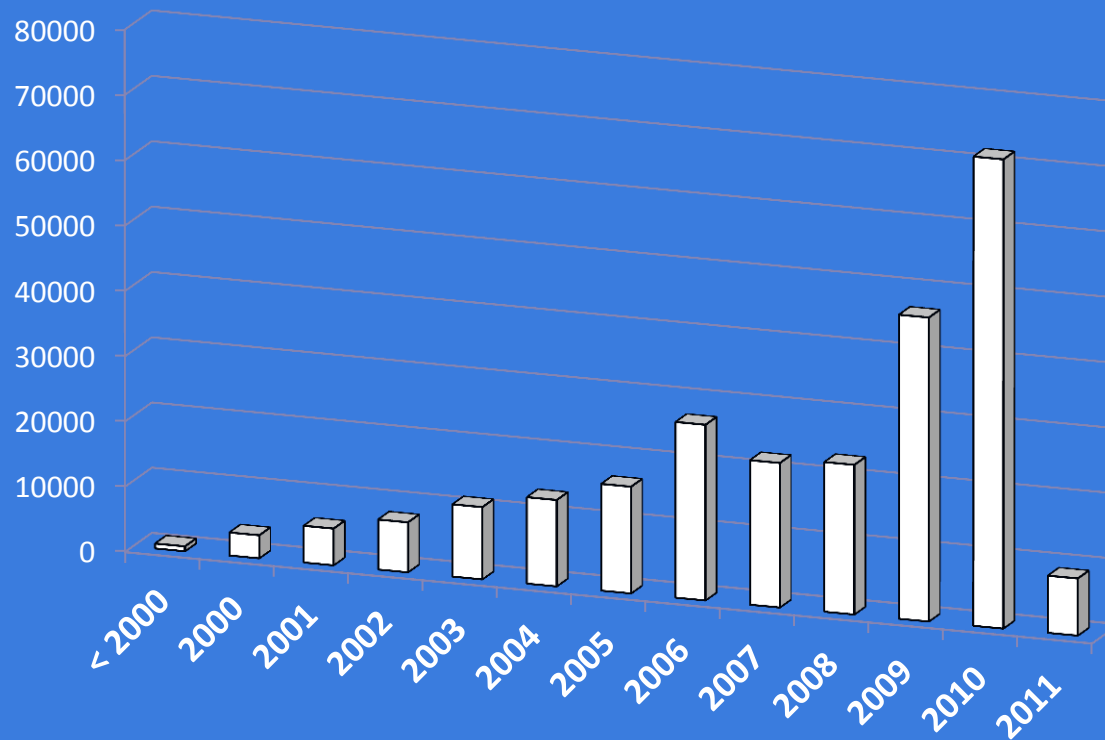
Number of loaded files by month

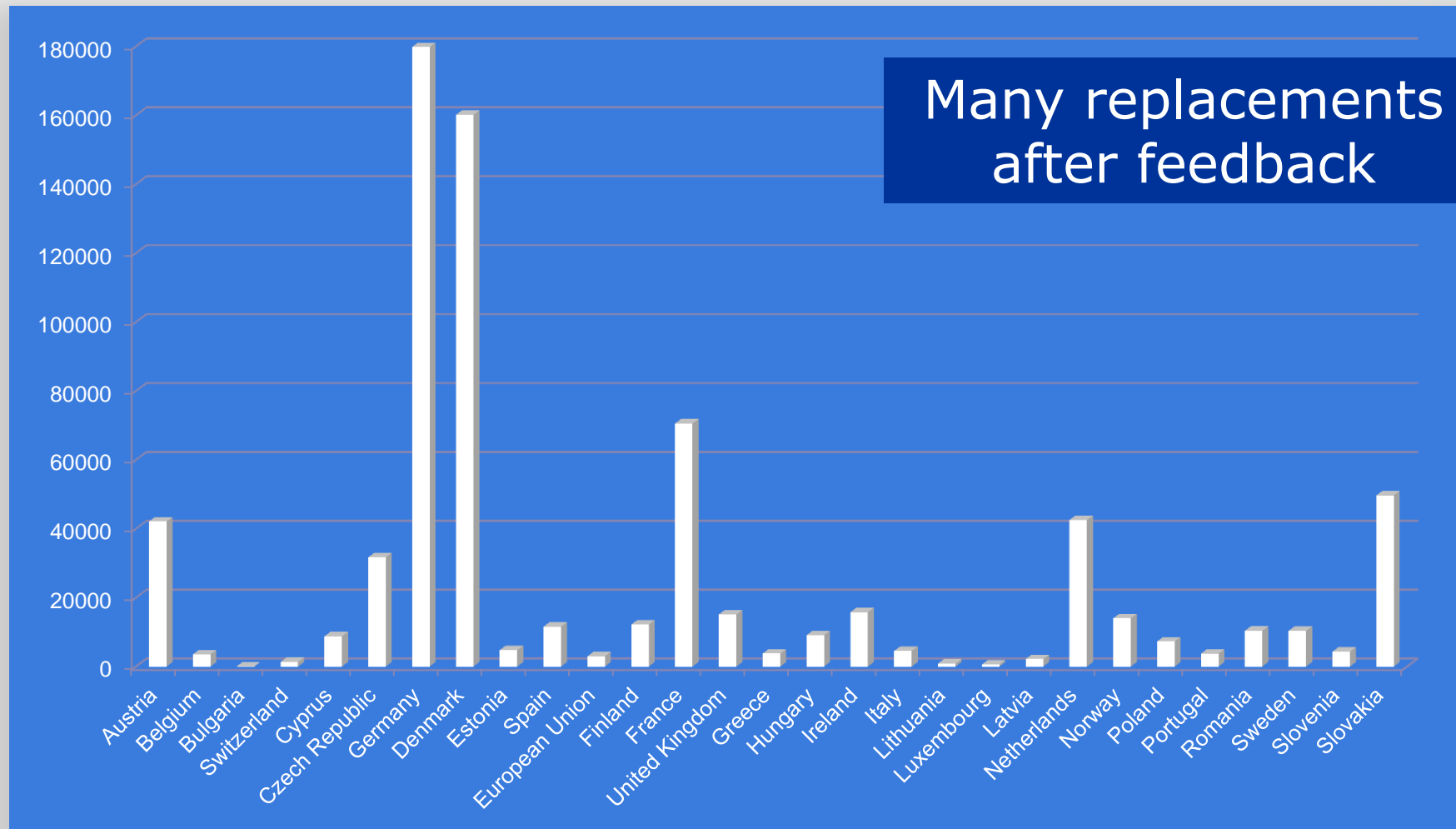


Number of loaded records by contaminant class

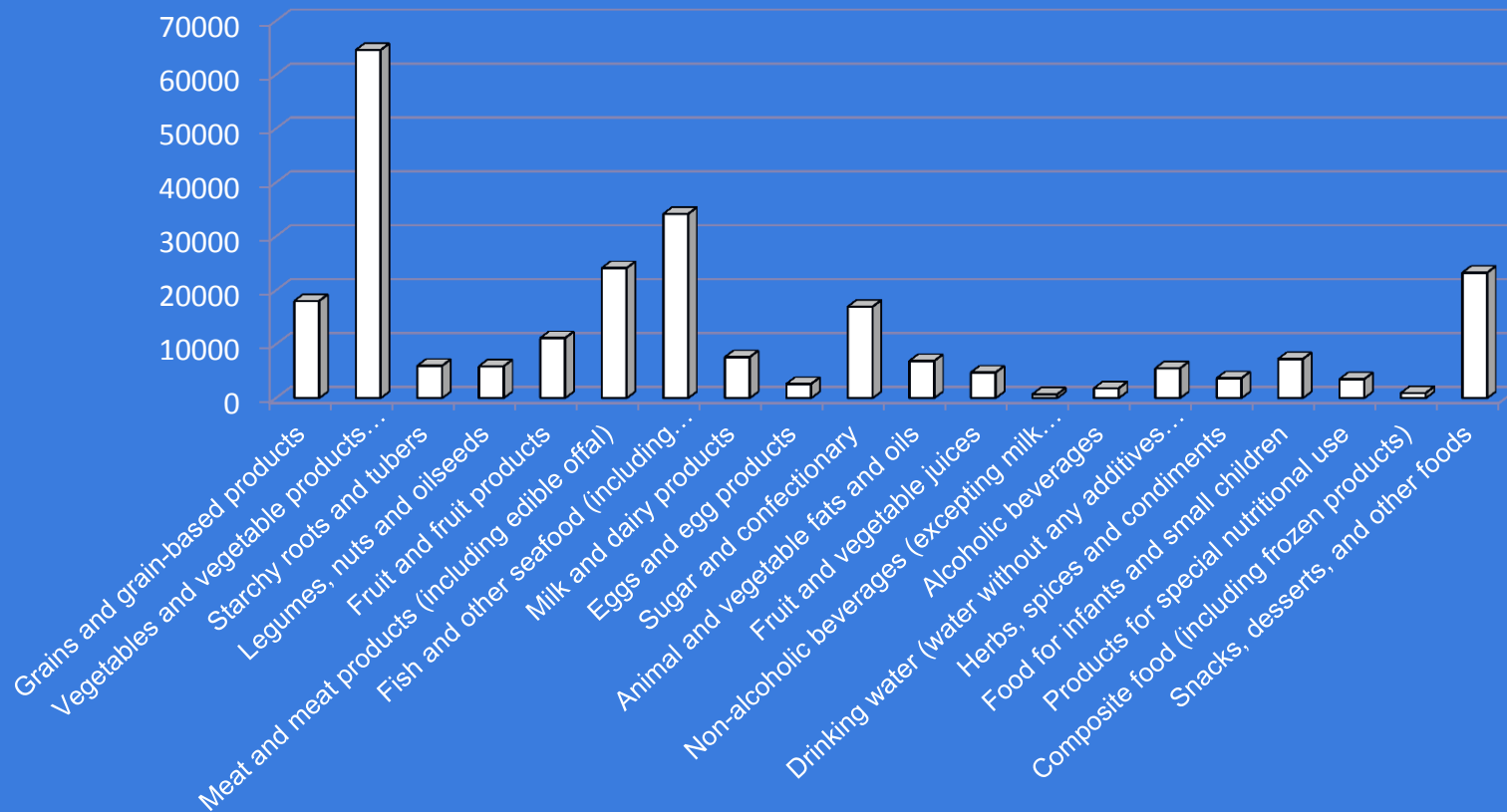


Number of samples by year of sampling



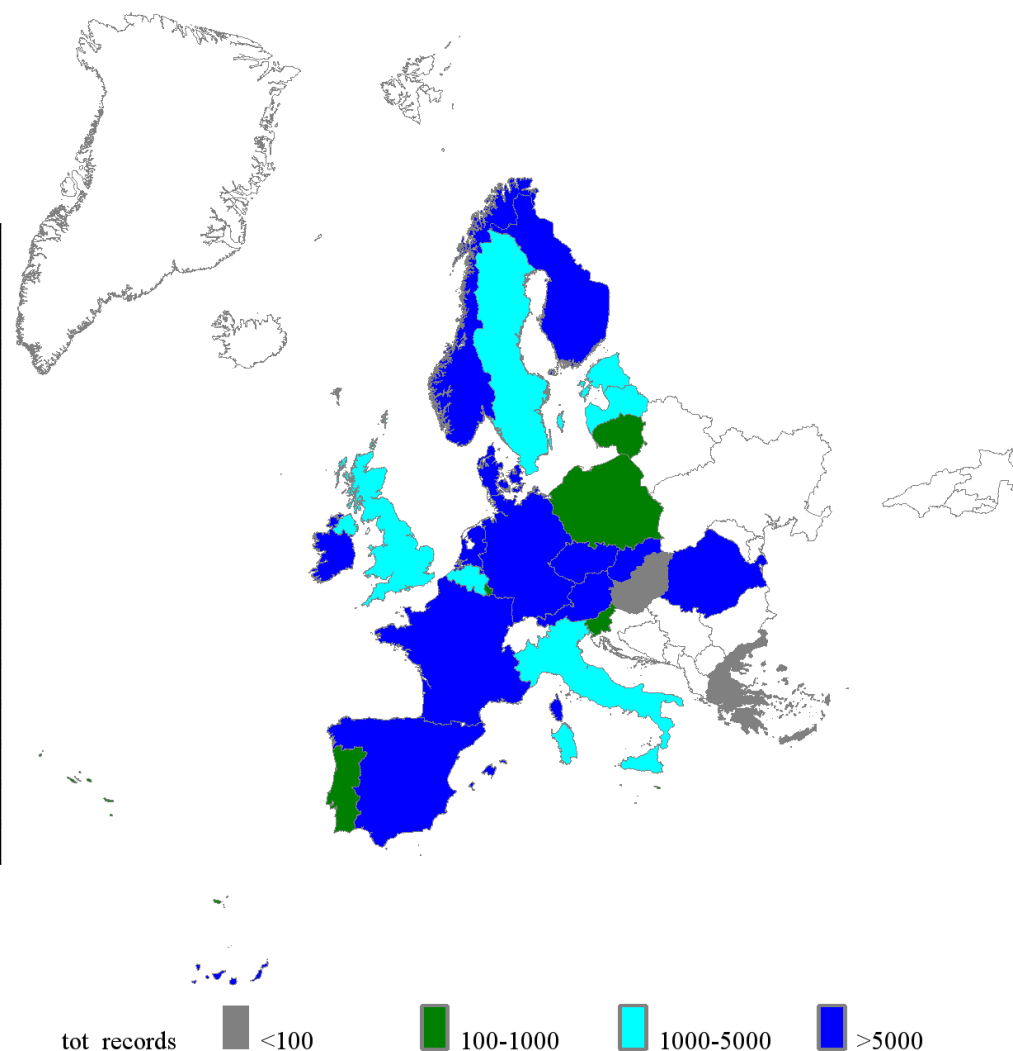


Number of samples by food category



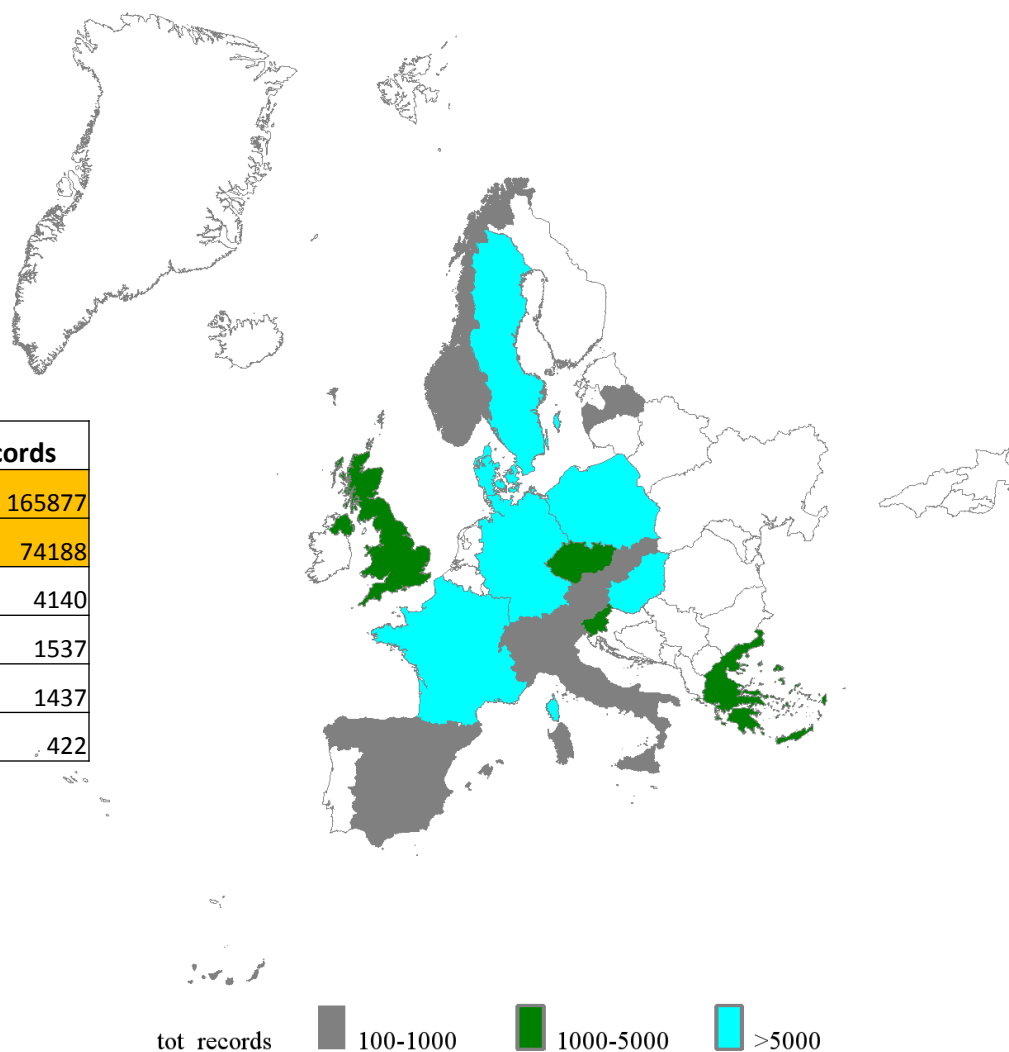
Chemical elements and derivatives

| Substance | N_records |
|---------------------------|-----------|
| Nitrites and nitrates | 52202 |
| Mercury and derivatives | 40744 |
| Cadmium and derivatives | 35790 |
| Lead and derivatives | 25611 |
| Arsenic and derivatives | 20530 |
| Nickel and derivatives | 1010 |
| Selenium and derivatives | 855 |
| Manganese and derivatives | 604 |
| Copper and derivatives | 542 |
| Chromium and derivatives | 520 |
| Zink and derivatives | 520 |
| Cobalt and derivatives | 206 |
| Vanadium and derivatives | 206 |
| Tin and derivatives | 178 |
| Aluminum and derivatives | 59 |



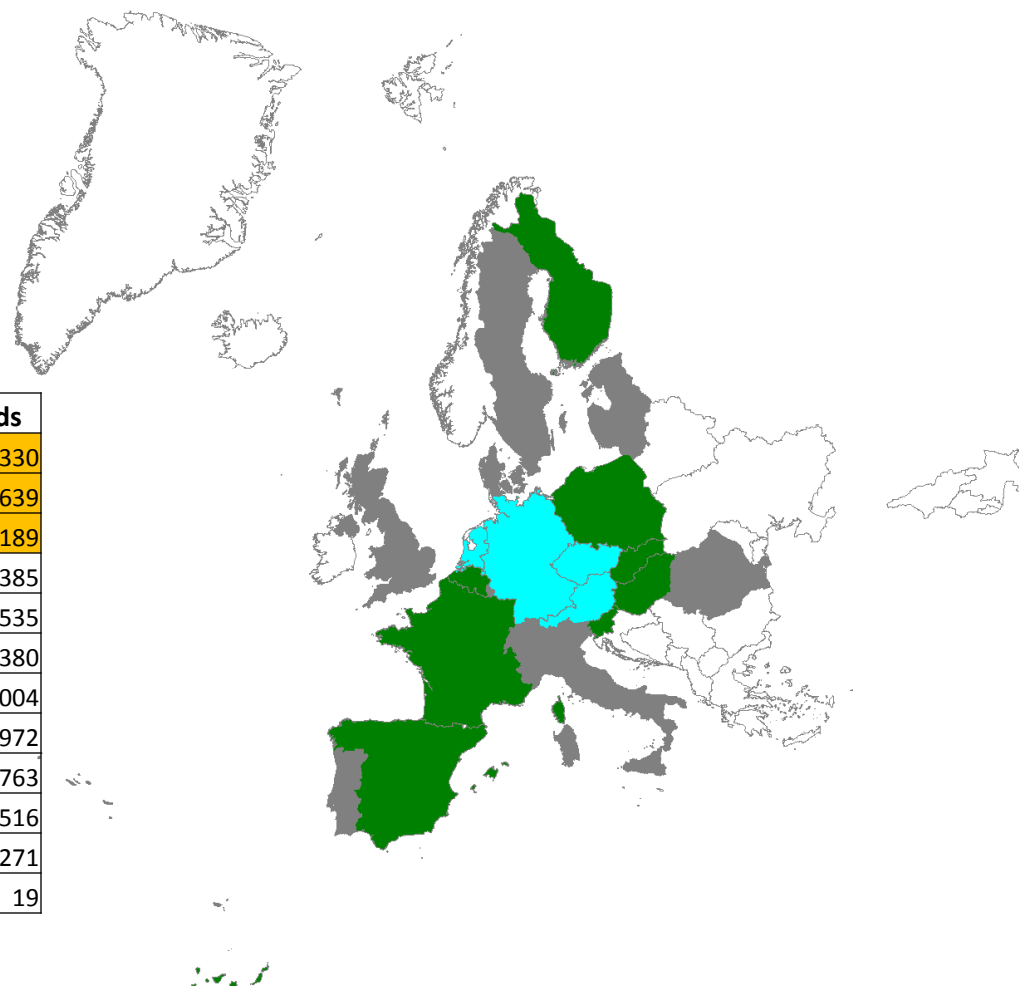
Organic contaminants

| Substance | N_records |
|----------------------------|-----------|
| Polychlorinated Biphenyls | 165877 |
| Dioxins | 74188 |
| Brominated flame retardans | 4140 |
| Mineral oils | 1537 |
| Alkyl phthalates | 1437 |
| Perfluorinated compounds | 422 |



Mycotoxins

| Substance | N_records |
|--------------------------------|-----------|
| Aflatoxins | 20330 |
| Ergot alkaloids | 15639 |
| Alternaria toxins | 11189 |
| Fumonisin | 8385 |
| Deoxynivalenol and derivatives | 6535 |
| Ochratoxins | 4380 |
| Patulin | 3004 |
| T-2/HT-2 toxins | 1972 |
| Zearalenone and derivatives | 1763 |
| Nivalenol | 516 |
| Sterigmatocystins | 271 |
| Diacetoxyscirpenol | 19 |



tot_records

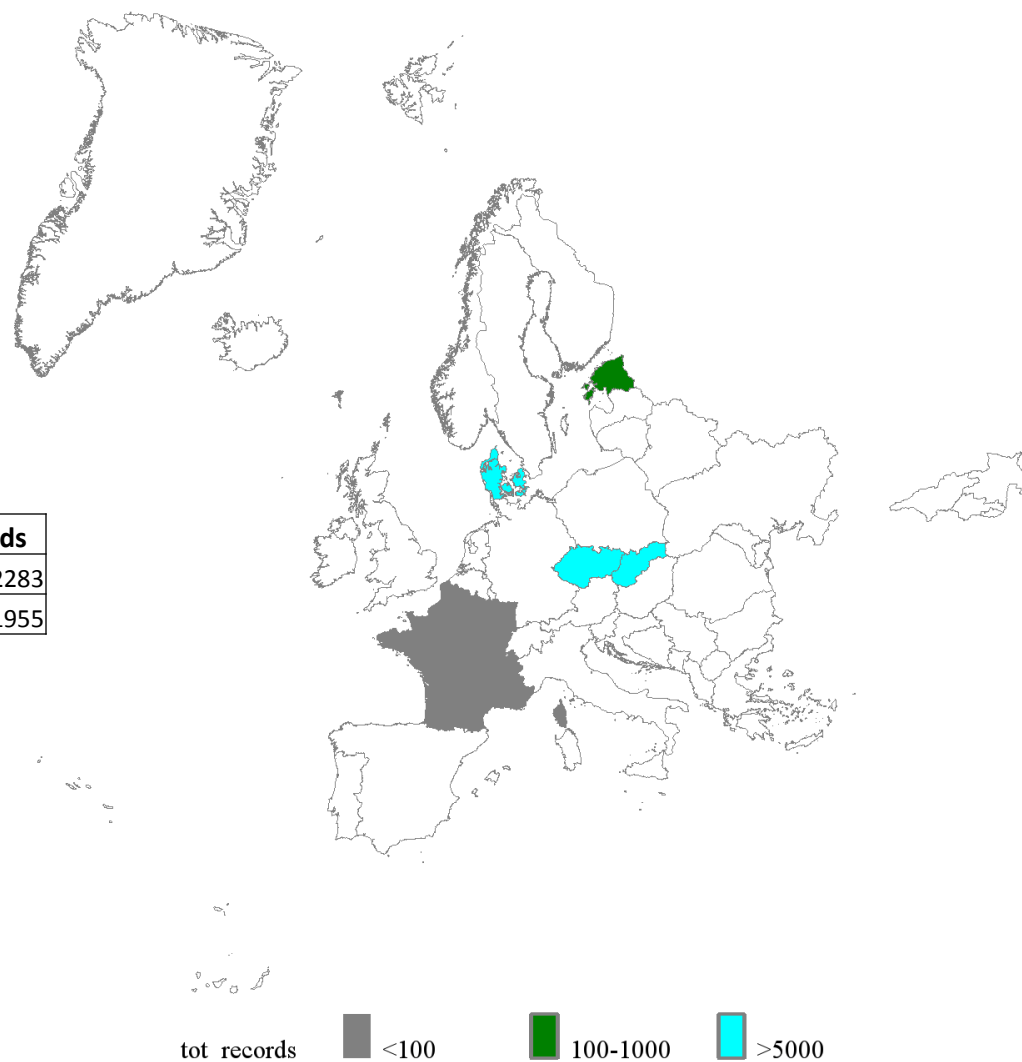
100-1000

1000-5000

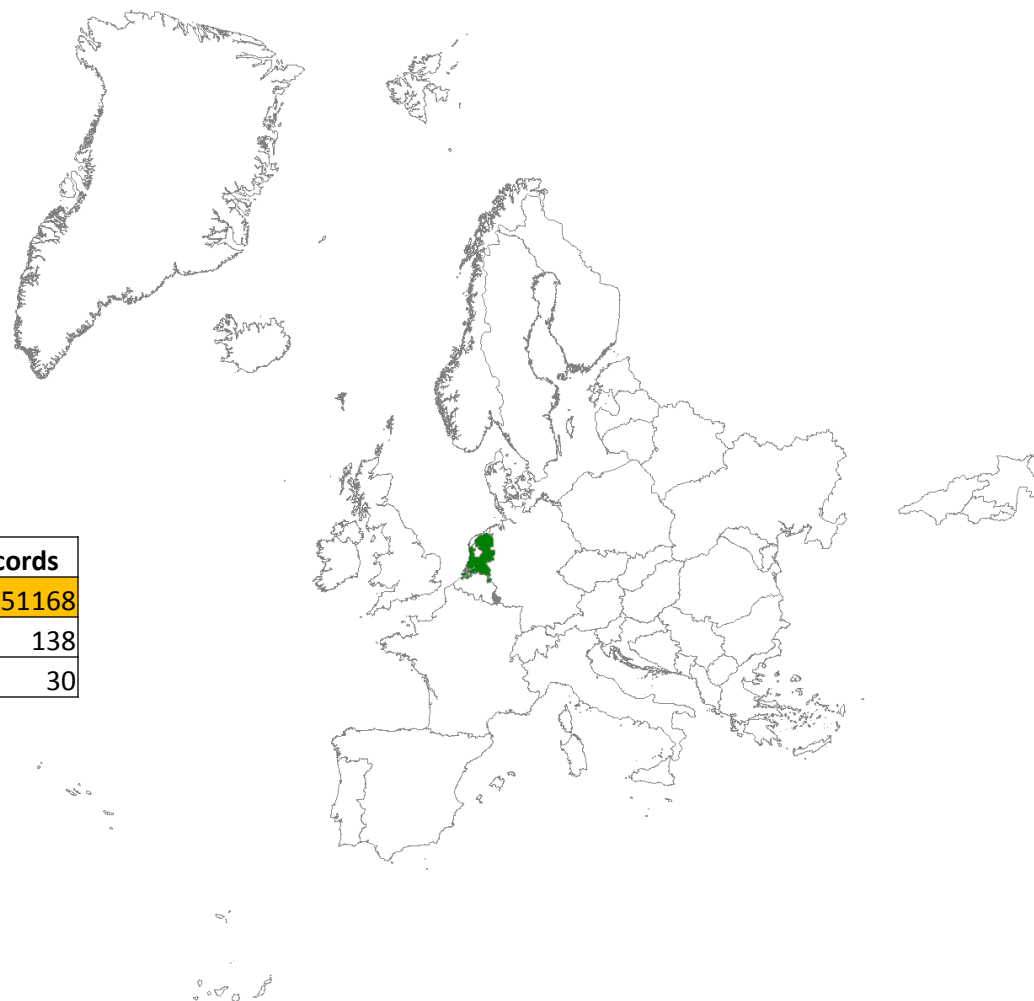
>5000

'Old' Pesticides



| Substance | N_records |
|---------------------------------|-----------|
| Pesticides contaminant residues | 52283 |
| Residue definition | 31955 |



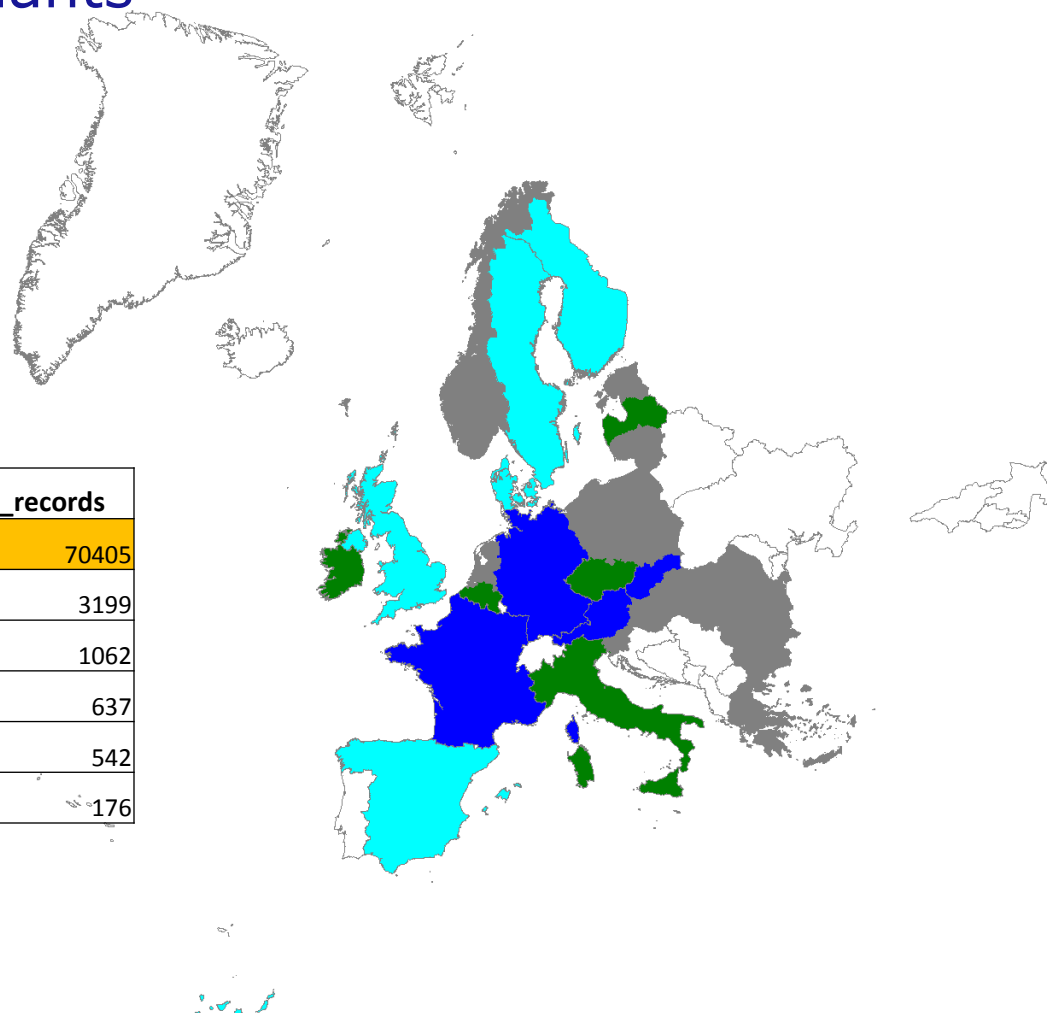
Phytotoxins







| Substance | N_records |
|-------------------------|-----------|
| Pyrrolizidine alkaloids | 251168 |
| Tropane alkaloids | 138 |
| Coumarin | 30 |

tot_records  <100  >5000

Process contaminants



| Substance | N_records |
|----------------------------------|-----------|
| Polycyclic aromatic hydrocarbons | 70405 |
| Acrylamide | 3199 |
| Furan | 1062 |
| 3-MCPDs | 637 |
| Ethyl carbamate | 542 |
| Hydroxymethylfurfural | 176 |

tot_records  <100  100-1000  1000-5000  >5000

Major achievements:

- ☐ Standardisation/homogeneity
- ☐ Traceability
- ☐ Effectiveness in feedback

Standardisation procedure schedule:
1st week of each month
(in peak periods performed weekly)

Major issues:

- ☐ Missing information on analytical method
180,000 records with missing analytical method (20%)
- ☐ LOD/LOQ values missing
113,000 records with missing LOD and LOQ (12%)
- ☐ FoodEx code not detailed enough
- ☐ errors in labsampcode (duplicated, different code to same samples...)

Data sampled (and most probably analysed) in 2011

Submission is open

Submission deadline 1 October 2012



THANK
YOU

