

2nd Comprehensive Pesticide Lab Survey

- Overview of the Results -



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M. Anastassiades

**EURL for Pesticide Residues
using Single Residue Methods**



EURL - FV/SRM
Workshop
Almeria, 27 - 28 Oct 2010

EU Reference Laboratory
for Pesticide Residues
using Single Residue Methods

Outline

- **Main tasks of the EURLs**
- **Why are survey important for the EURLs?**
- **Overview on the results of the 2nd comprehensive Survey**
- **Summary + How was the collected data used → EURL DataPool**

**Method
Development
and Validation**

**Drafting of
Techn. Guidelines
(SANCO document)**

**Organization of
EU Proficiency
Tests**

**Technical
Assistance
to the COM**

Main Working Tasks of the EURLs

**Networking with
NRLs and
Official EU-Labs**

**Information
Management**

**Administrative
Duties**

**Collaboration
with Third
Countries' Labs**

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OfLs, NRLs,
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**Collaboration with
3rd Countries &
Int. Organizations**

Networking with NRLs and Official EU-Labs (OLs)



| NRL and/or OL | Commodity Scope |
|---------------|----------------------|
| Lab A | FV (applying SRM) |
| Lab B | AO, CF |
| Lab C | CF (applying SRM) |
| Lab n | FV, CF, AO (app.SRM) |

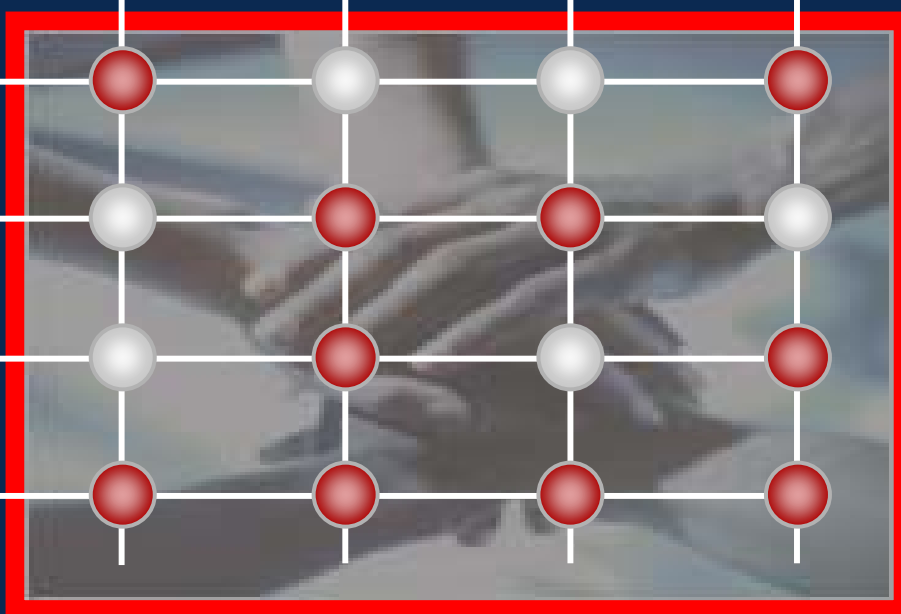
EURL for ...

FV

CF

AO

SRM



EURL - FV/SRM

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**Information
Management**

**Administrative
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Int. Organizations**



EURL Working Task - Information Management

| Information Management | | Tools | | | |
|---|--------------|---|---|---|---|
| Aim: Build-up structures that allow ... | | CIRCA | EURL Portal | EURL DataPool | Surveys |
| | | Document repository | Central homepage | Various databases | Flexibility! |
| 1 | Collection | | |  |  |
| 2 | Storage |  | |  | |
| 3 | Distribution |  |  |  | |
| 4 | Exchange |  | | | |
| 5 | Evaluation | | |  |  |
| Access? | | restricted | open | restricted | by invitation |



EURL Surveys

EURL - FV/SRM
Workshop
Almeria, 27 - 28 Oct 2010

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using Single Residue Methods

EURL-Surveys



| Name of Survey | EURL Organizer | Year | No. of Particip. Labs |
|---|----------------|------|---------------------------|
| 1st Comprehensive Pesticide Lab Survey | SRM | 2006 | 103 |
| Analytical Status Quo | AO | 2006 | 17 |
| Analytical Status Quo (follow-up) | AO | 2007 | 30 |
| Analysis of Amitraz in EU-Labs (I) | SRM & FV | 2008 | 123 |
| Analysis of Amitraz in EU-Labs (II) | SRM & FV | 2009 | 135 |
| 2nd comprehensive Pesticide Lab Survey Part I: Contact Data Part II: Pesticide Scope Part III: Supplementary Questions | SRM | 2010 | 276 246 Coming soon |
| CheckYourScope mini-survey | SRM | 2010 | 203 (persons) |
| EU-RL-Feedback | All EU-RLS | 2010 | 350 (persons) |

Additionally several various EUPT and EURL-Training feedback surveys were runned

EURL - FV/SRM

Workshop
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EURL-Surveys

Aims:

- **Fill-in Lab-Network DB** (see EURL DataPool)
- Assess the **Status-Quo** of network-labs
- Assess the **Needs** and requirements of network-labs
- **Follow Trends & Developments** within Network
- Get **Feedback** on past + planned EURL-activities
- Gain ability to **better plan & justify EURL-Activities**
(based on sound data)
- **Allow labs to make comparison with other labs**
(see where they stand & get ideas what to do next)
- **Promote awareness** about certain aspects
(Initiate a Thinking Process...)



1st comprehensive Survey (2006/2007)

Analytes
(will take ca. 5 min to complete) [Back to 'Introduction'](#)

Overview:

N° of pesticides you currently ROUTINELY target in your samples ?

Total N° of pesticides ROUTINELY covered by MS or MS/MS techniques (Full scan, SIM or MRM) ?

N° of pesticides routinely covered by GC-MS (/MS) (Full scan, SIM or MRM) ?

N° of pesticides routinely covered by LC-MS (/MS) (Full scan, SIM or MRM) ?

Did the number of target-pesticides increased in your lab from 2003 to 2005 ?

Pesticides typically covered by single residue or group-specific methods:

Which of the pesticides below do you cover in your laboratory ?

| | Type of method employed | % of samples analyzed for these |
|---|-------------------------|---------------------------------|
| Acidic pesticides (phenoxy acids and similar) | <input type="text"/> | <input type="text"/> |
| Chlomequat, mepiquat | <input type="text"/> | <input type="text"/> |
| Glyphosate | <input type="text"/> | <input type="text"/> |
| Ethefon | <input type="text"/> | <input type="text"/> |
| Fosetyl aluminium | <input type="text"/> | <input type="text"/> |
| Sulfonylureas | <input type="text"/> | <input type="text"/> |
| Dithiocarbamates as CS ₂ (Photometric) | <input type="text"/> | <input type="text"/> |
| Dithiocarbamates as CS ₂ (GC) | <input type="text"/> | <input type="text"/> |
| Dithiocarbamates individual compounds (LC) | <input type="text"/> | <input type="text"/> |
| ETU | <input type="text"/> | <input type="text"/> |

103 laboratories responded to survey!

Result:

- Laboratory scene in EU was highly diverse (N° of personnel, instruments, samples analyzed, pesticides targeted)
(for more details: download the report from CIRCA)

2nd comprehensive Survey (2010)

Part I: Lab Contact Data & Commodity Scopes

ONLINE

Part II: Pesticide scope by matrix

Excel-File

Part III:

IIIa: Feedback to CheckYourScope

IIIb: Feedback to EURLs

IIIc: Complementary information


IIId: AQC (2010/2011)

**Most of the
collected data was
imported in EURL
DataPool**

ONLINE

ONLINE

EURL-Survey Part I – Online Survey Tool



Community Reference Laboratories for Residues of Pesticides

2nd Comprehensive Pesticide Lab Survey

For more info: [CLICK HERE](#)

- Part I: Lab Contact Data and Commodity Scope -

Please give information about the officially analyzed samples and the sample scope of your laboratory:

Is your lab ANALYZING official samples for pesticide residues? (*)

☐ Yes


☐ No

Is your lab sub-contracting official pesticide residue analyses to other labs? (*)

☐ Yes, all analyses

☐ Yes, some analyses

☐ Non

0%  100%

Survey Participants



- **303 Labs** were invited (264 from EU)

- **Respondents:**

- **Part I = 276 Labs = 91%**

- **Part II = 246 Labs = 81%**

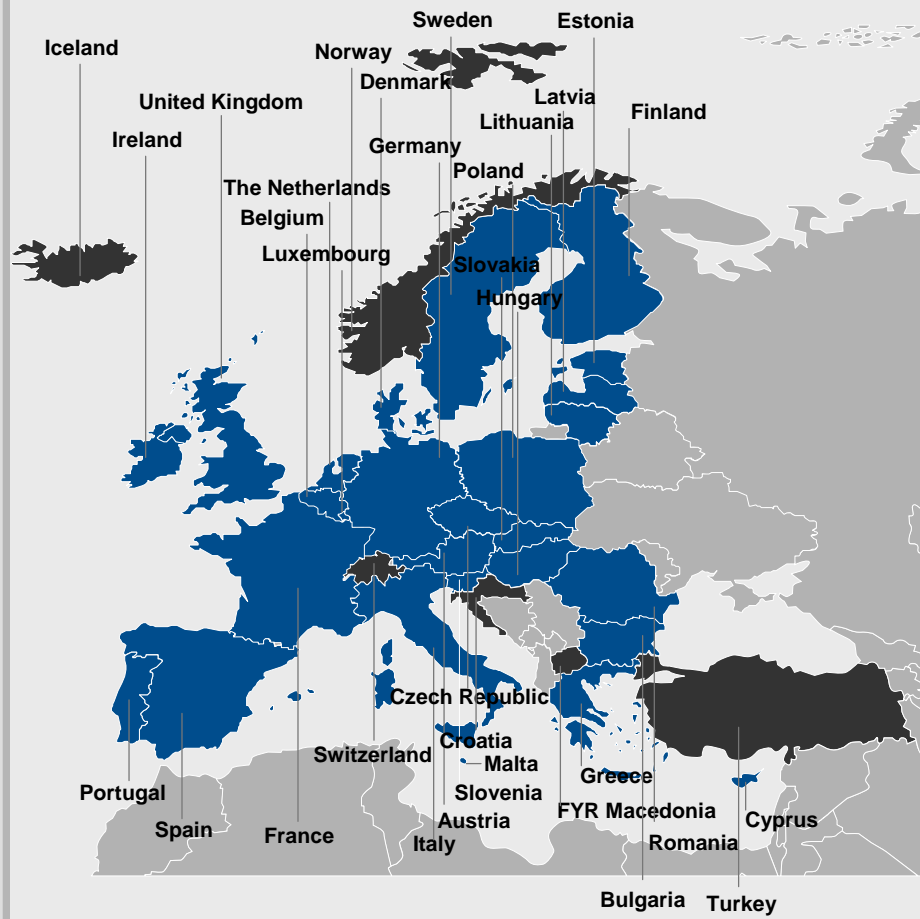
Feedback to ...

- **CheckYourScope = 152 labs***

- **EURLs work = 225 labs****

* 188 labs were invited

** only one week to respond



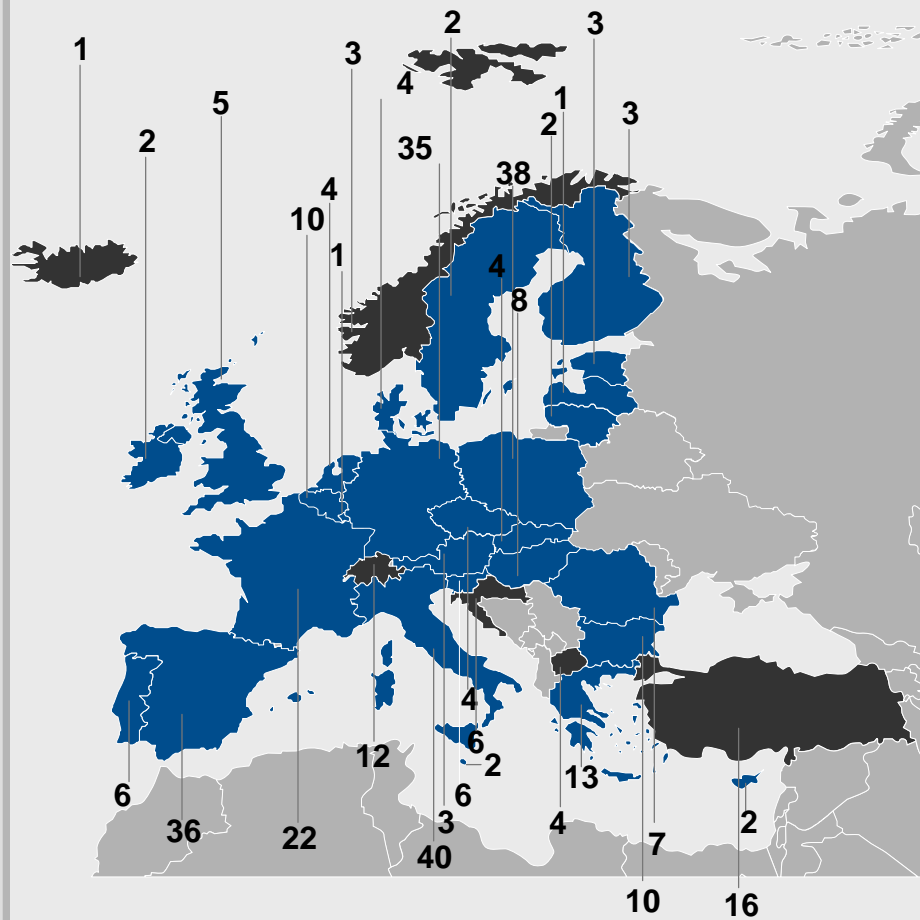
EU Lab-Network - Overview

Official Labs for Pesticide Residues

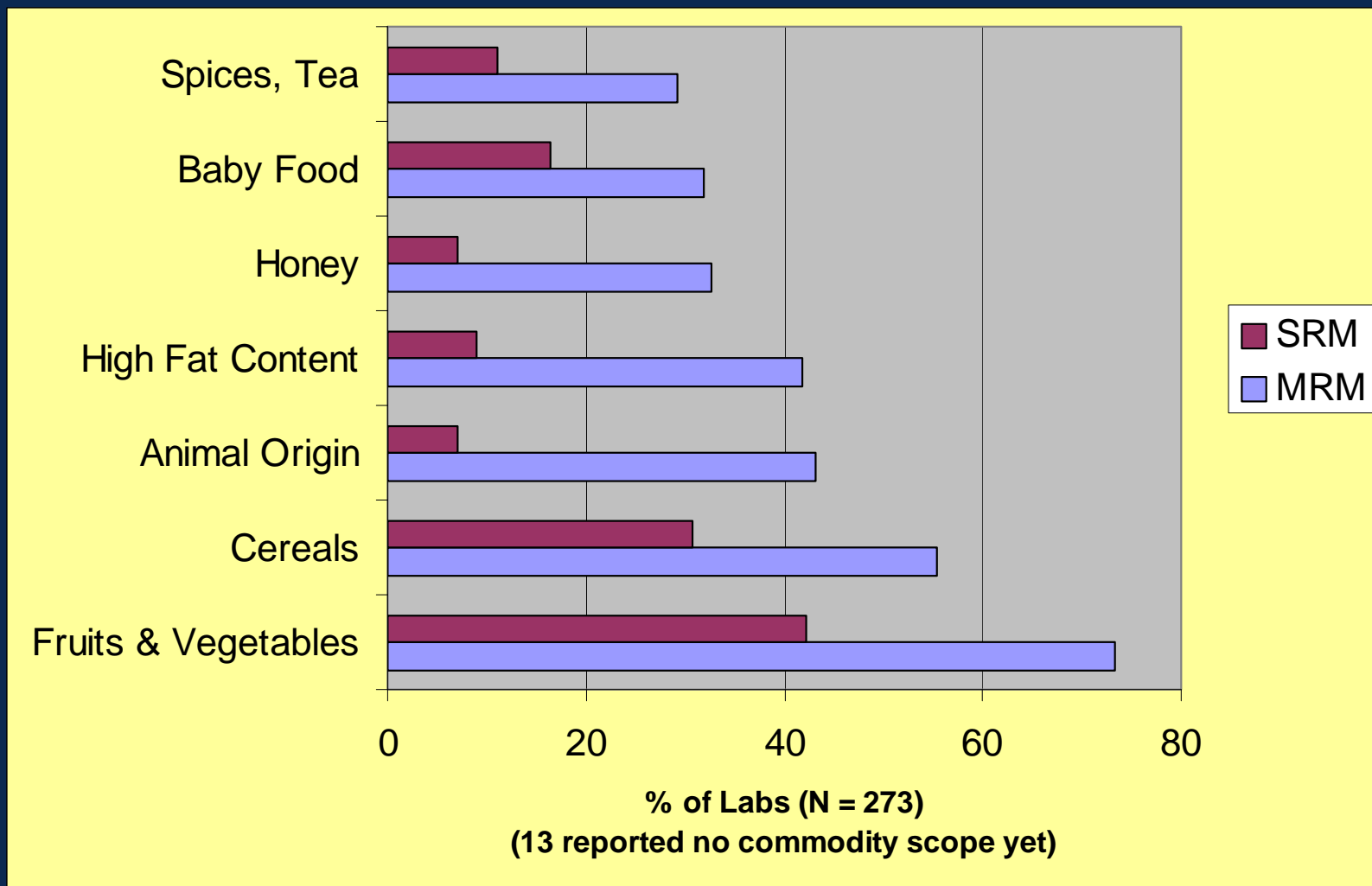


- **315 official labs in network:**
 - **273 EU-labs**
 - **16 EFTA-labs**
 - **26 EU-candidate labs**
- 61 NRLs (+ 1x NRL from TR)
- N° of labs per country:
 - 1 lab (e.g. Malta, Latvia, ...)
 - >30 labs (Italy, Poland, ...)
- contact data (official email, ...) of **679 persons** acting as contact persons (= Lab Admin in EURL DataPool)

Number of labs per country



Commodity Scope of OfLs



Com. Scopes - Combinations / Responsibility areas

| EURL-Areas covered by labs | | | | N° of labs with this combination |
|----------------------------|----------------------|----------------------|----------------------|---|
| FV | CF | AO | SRM | |
| X | X | X | X | 68 |
| X | X | X | | 33 |
| X | | | | 28 |
| | | X | | 26 |
| X | X | | X | 24 |
| X | | | X | 17 |
| X | X | | | 15 |
| | X | X | | 11 |
| | X | X | X | 10 |
| X | | X | X | 9 |
| | X | | X | 6 |
| X | | X | | 6 |
| | X | | | 4 |
| | | X | X | 3 |
| SUM | 200 (73%) | 171 (63%) | 166 (61%) | 137 (in practice: 50%) (in theory: 100%) |
| | | | | 260 (13 labs reported no Com. Scope) |

202 labs cover more than one EURL-area!

⇒

Approx. 80% of the EU-OLs (incl. NRLs) perform pesticide-residue-related activities belonging to the responsibility area of more than one EURL

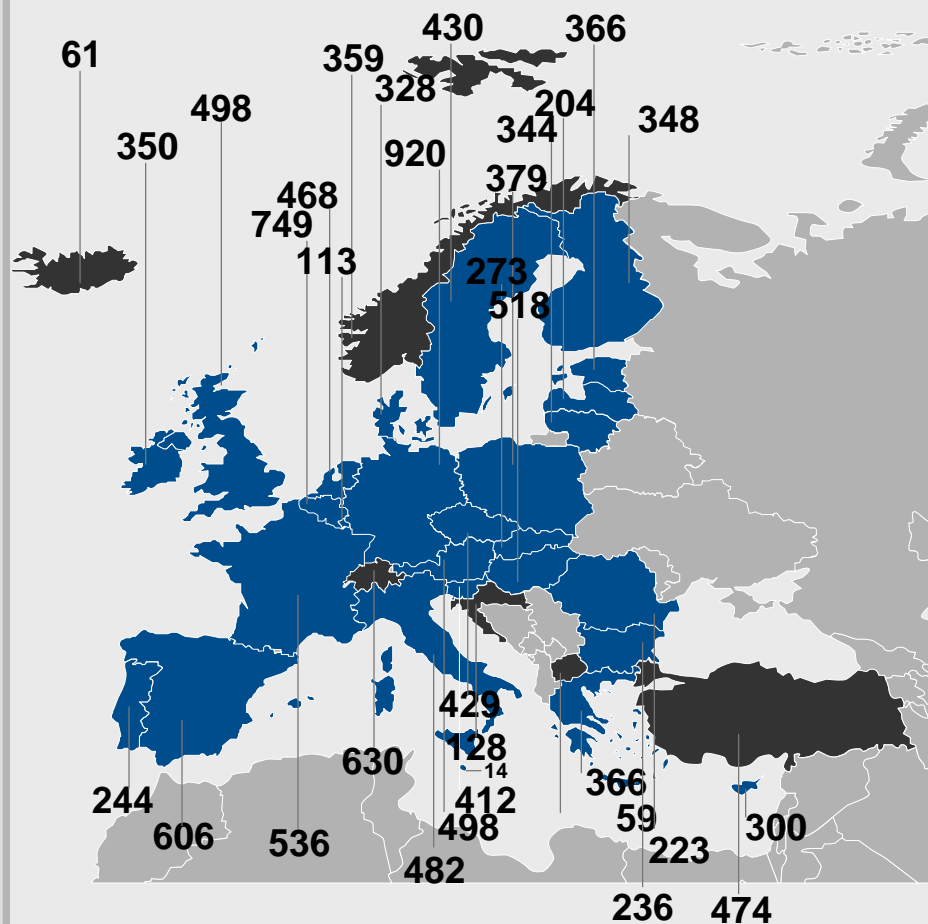
EU Lab-Network - Pesticide Scope of OLs

Request by the COM: all official EU-labs should indicate their current pesticide scope (= all pesticides/metabolites targeted in each lab)








- **247 labs** sent their pesticide scopes
- **1023** different pesticides/metabolites are analyzed
- N° of pesticides/metab. **per country**:
Minimum: 113
Maximum: 920
Median: 373

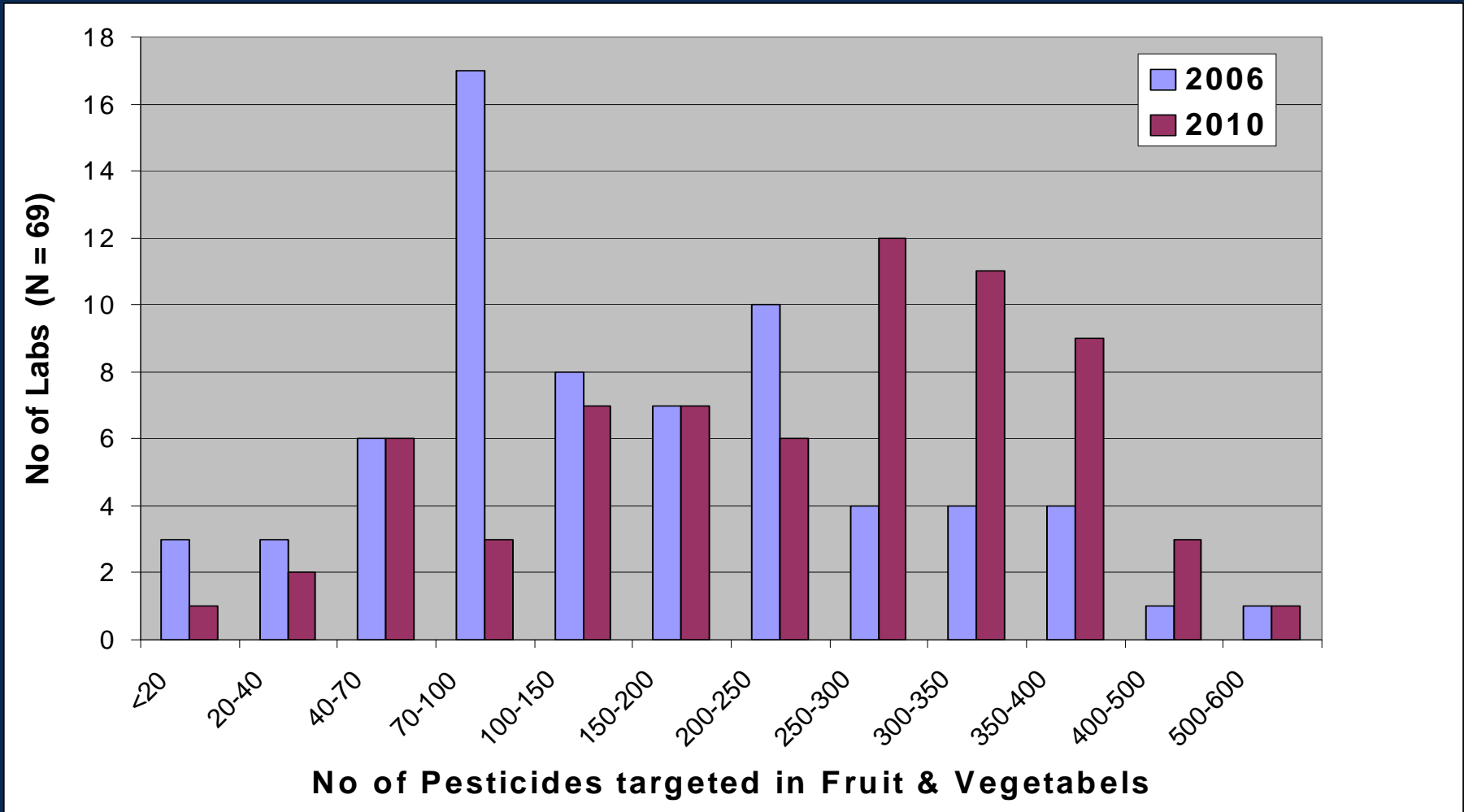
Analytes targeted by country (considering ALL COMMODITIES & ALL COMPOUNDS within residue def.)



EU Lab-Network - Pesticide Scope

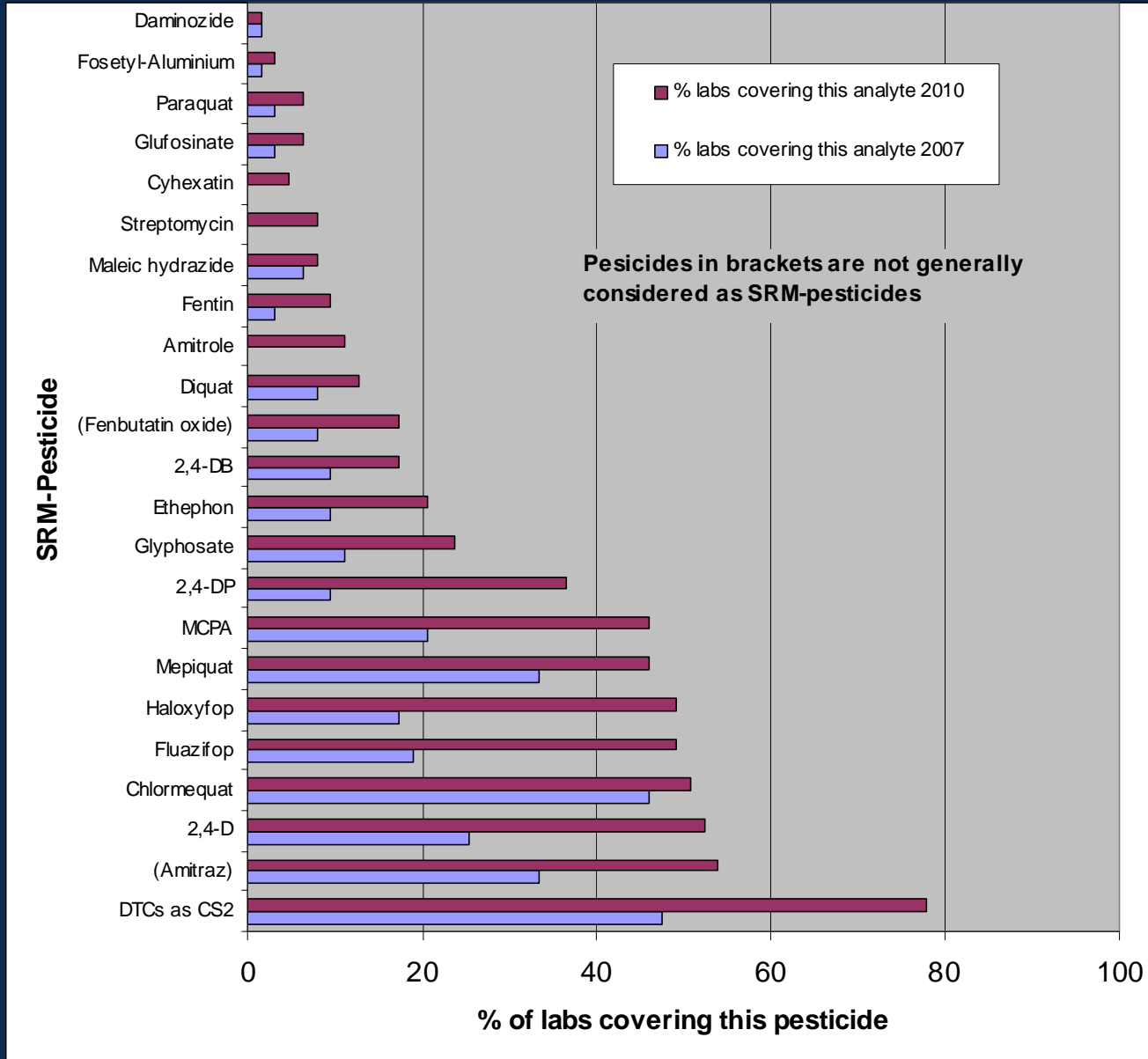
| Pesticide scope | FV  | Cereal  | AO  | HFC  | Honey  |
|--------------------|---|---|--|--|--|
| No Labs sent scope | 190 | 140 | 111 | 93 | 83 |
| Max. | 692 | 576 | 461 | 576 | 576 |
| Median | 160 | 143 | 52 | 120 | 48 |

Trends in Pesticide Scope (Fruits and Vegetables)



→ Significant increase in the scope of targeted pesticide in most OfLs

Trends in Pesticide Scope (SRM-Pesticides)
















→ More labs routinely target SRM-pesticides in 2010 than in 2006















EFSA Report 2008

Based on
received Data

EURL-FV data

CheckYourScope

| COUNTRY | Labs | Population per Lab (mio) | N° of samples per 100.000 population | N° of Pesticides Targeted per sample on ave. (FV) | % of labs with GOOD overall PT-performance (FV) | % of pesticides that cover CYS TOP 250 |
|---|------|--------------------------------|--|--|--|---|
| Average EU | 273 | 1.8 | 14 | 310 | / | / |
|  Italy | 40 | 1.5 | 11 | 158 | ~20 | 73 |
|  Poland | 38 | 1.0 | 4 | 180 | ~10 | 68 |
|  Spain | 36 | 1.3 | 14 | 180 | ~35 | 78 |
|  Germany | 35 | 2.3 | 19 | 502 | ~95 | 87 |
|  France | 22 | 3 | 8 | 259 | ~30 | 80 |
|  Greece | 13 | 0.9 | 22 | 112 | ~25 | 60 |
|  Bulgaria | 10 | 0.8 | 13 | 100 | ~18 | 57 |
|  Belgium | 8+2 | (1.1) | 16 | 450 | ~80 | 80 |
|  Hungary | 8 | 1.3 | 36 | 317 | 100 | 80 |
|  Romania | 7 | 3.0 | 15 | 123 | 0 | 36 |
|  Portugal | 6 | 1.8 | 7 | 149 | ~33 | 49 |
|  UK | 5 | 12.2 | 4 | 359 | 100 | 75 |
|  Slovenia | 4 | 0.5 | 63 | 326 | 100 | 71 |

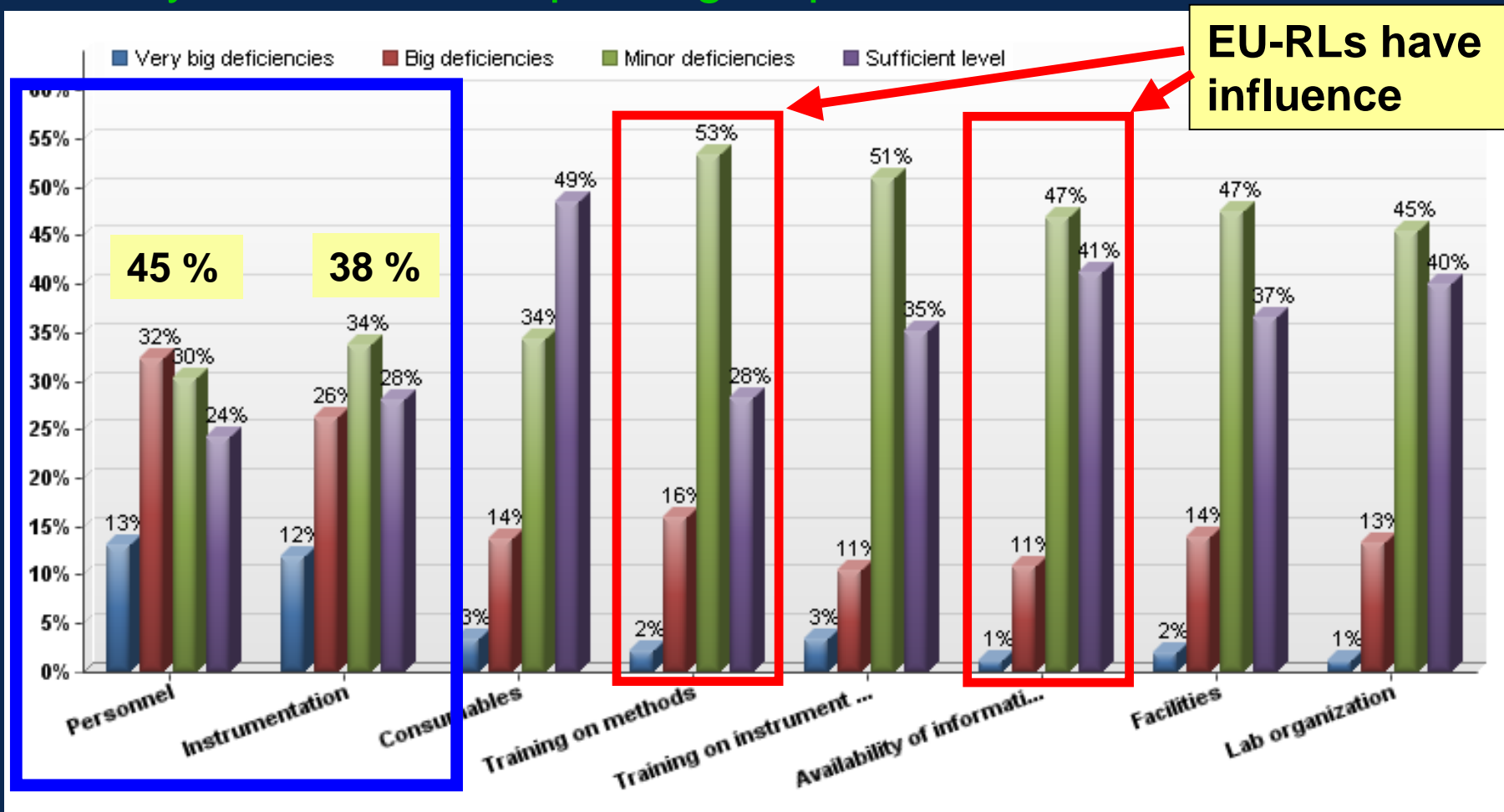
| COUNTRY | Labs | Population per Lab (mio) | N° of samples per 100.000 population | Pesticides Targeted per sample on ave. (FV) | % of labs with GOOD overall PT-performance (FV) | % of pesticides that cover CYS TOP 250 |
|--|------|--------------------------------|--|--|--|---|
| Average EU | 273 | 1.8 | 14 | 310 | / | / |
|  Denmark | 4 | 1.4 | 37 | 264 | ~50 | 55 |
|  Czech Rep. | 4 | 2.6 | 9 | 338 | 100 | 71 |
|  Slovakia | 4 | 1.4 | 17 | 250 | ~50 | 57 |
|  Netherlands | 3 | 5.5 | 26 | / | 100 | / |
|  Finland | 3 | 1.8 | 39 | 305 | ~50 | 63 |
|  Estonia | 3 | 0.4 | 24 | 308 | 100 | 66 |
|  Austria | 3 | 2.8 | 24 | 368 | 100 | 73 |
|  Ireland | 2 | 2.3 | 23 | 349 | 100 | 59 |
|  Lithuania | 2 | 1.7 | 16 | 317 | 100 | 69 |
|  Sweden | 2 | 4.7 | 17 | 383 | 100 | 66 |
|  Cyprus | 2 | 0.4 | 66 | 269 | 100 | 58 |
|  Latvia | 1 | 2.2 | 5 | 169 | 0 | 49 |
|  Malta | 1 | 0.4 | 24 | / | / | / |
|  Luxemburg | 1 | 0.5 | 29 | 113 | 0 | 34 |

Result of the Feedback Survey (June 2010)



Question:

In which of the following areas do you have deficiencies that hinder your lab from improving its performance level?



(responses of 350 NRL/OfL-experts)

Comments from Feedback Survey

1. Comments concerning additional obstacles hindering lab development:

| Subjects of Concern | No. of comments (out of 93) | In % |
|---|--------------------------------|----------|
| Lack of finances | 41 | 44 |
| Lack of instruments | 28 | 30 |
| Lack of time | 13 | 14 |
| Lack of personnel | 13 | 14 |
| Lack of Support from politics/ hierarchy (e.g. low priority) | 12 | 13 |
| Extensive QC incl. PTs | 12 | 13 |
| Deficient (e.g. inflexible / frequently changing) administration/organization | 9 | 10 |
| Lack of consumables | 8 | 9 |
| Uncertainty about future/ frustration | 7 | 8 |
| Limited lab size | 7 | 8 |
| Lack of training | 4 | 4 |
| Limited space in lab | 2 | 2 |
| Suggestions / Comments / Criticism: | 6 | 7 |

Summary

- **Surveys are valuable tools to collect and evaluate data**
→ give insight
- **2nd Comprehensive Pesticide Lab Survey:**
→ high degree of participation
(THANK YOU VERY MUCH!)
→ gave an insight on the EU lab scene (N° of labs, commodity scope, pesticide scope)
→ data was used to fill-in Lab-Network database

Data used to fill-in Lab-Network database:

Part I: Lab Contact Data & Commodity Scopes

EURL DataPool
EU Reference Laboratories for Residues of Pesticides

Login Logout Profile Institution Method Validation Data Commodities Pesticides CRL Network Downloads

View Institution Profile

*= Required fields are marked with an asterisk.

Contact Status Staff Samples Pesticide Scope Equipment Networking Additional Info

Contact

Institution Name (English)*

Institution Short Name (English)

Institution Name (local language 1)*

Institution Short Name (local language 1)

Institution Name (local language 2)

Institution Short Name (local language 2)

Institution Work Sector

If "Other", please specify

Details on pesticide-related tasks of institution

Department

Street, No.*

Building

Postal Code*

City*

Country*

Phone Number (Institution)* (incl. country code & personal ext., i.e. +49)

Fax Number (Institution) (incl. country code & personal ext., i.e. +49)

Email (Institution)*

Web Address 1

Web Address 2

EURL DataPool
EU Reference Laboratories for Residues of Pesticides

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View Institution Profile

*= Required fields are marked with an asterisk.

Contact Status Staff Samples Pesticide Scope Equipment Networking Additional Info

Staff and Responsibility Areas

| (Employee) | Lab Admin | Fruit & Vegetables | Cereals | Feedingstuffs | Food of animal origin (except honey) | Honey | Food of high fat content (non animal origin) |
|--------------------|-----------|--------------------|---------|---------------|--------------------------------------|-------|--|
| Scherbaum, Ellen | x | x | x | | | x | x |
| Schüle, Eberhard | x | x | x | | | x | x |
| Zipper, Hubert | x | x | x | | | x | x |
| Mack, Dorothea | | | | | | | |
| Kolberg, Diana | | | | | | | |
| Hacker, Kathi | x | x | x | | | x | x |
| Tasdelen, Bünyamin | | | | | | | |
| Wauschkuhn, Carmen | | | | | | | |
| Doludda, Dorothee | | | | | | | |

EURL DataPool
EU Reference Laboratories for Residues of Pesticides

Login Logout Profile Institution Method Validation Data Commodities Pesticides CRL Network Downloads

Enter Profile

Dear user, if you like to change your email-address, your working place or your user name, please [contact the administrators](#).

Personal Contact Data Personal Expertise Network Activities Additional Data Confidentiality

Personal Contact Data

Salutation*

Academic Title

First Name*

Last Name*

Phone Number* (incl. country code & personal ext., i.e. +49 711 123456)

Alternative Phone Number (incl. country code & personal ext., i.e. +49 711 123456)

Fax Number (incl. country code & personal ext., i.e. +49 711 123456)

Email*

Alternative Email

Position within your working place

If other, please specify


Working Place*

If your working place is an official EU laboratory, please click here to choose your lab:

If your working place is NOT an official EU laboratory, please click here:

Data used to fill-in Lab-Network database:

Part I: Lab Contact Data & Commodity Scopes


DataPool
 EU Reference Laboratories for Residues of Pesticides

Login Logout Profile **Institution** Method Validation Data Commodities Pesticides CRL Network Downloads Jump to...

View Institution Profile

*= Required fields are marked with an asterisk.

Contact **Status** Staff Samples Pesticide Scope Equipment Networking Additional Info

Samples

The Lab is actively analyzing official samples for pesticide residues

The Lab is sub-contracting official pesticide analyses to other labs

Details concerning sub-contracted labs, samples and scope

The Lab is analyzing samples within the EU-Coordinated Control Programme ☒

Please indicate the sample types that are within your lab scope and give additional information

| Sample type | Sample types within lab-scope | Single residue methods are employed (e.g. dithiocarbamates, etc.) | Sample types analyzed for EU-Coord. Control Progr. | Comment |
|--|-------------------------------------|---|--|----------------------|
| Fruits and vegetables (incl. processed FV) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="text"/> |
| Cereals | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| Feeding stuff | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| Food of animal origin (except honey) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| Food of high fat content (non animal origin) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| Honey | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| Baby food | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input type="text"/> |
| Spices, tea and similar matrices | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input type="text"/> |
| Water | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input type="text"/> |

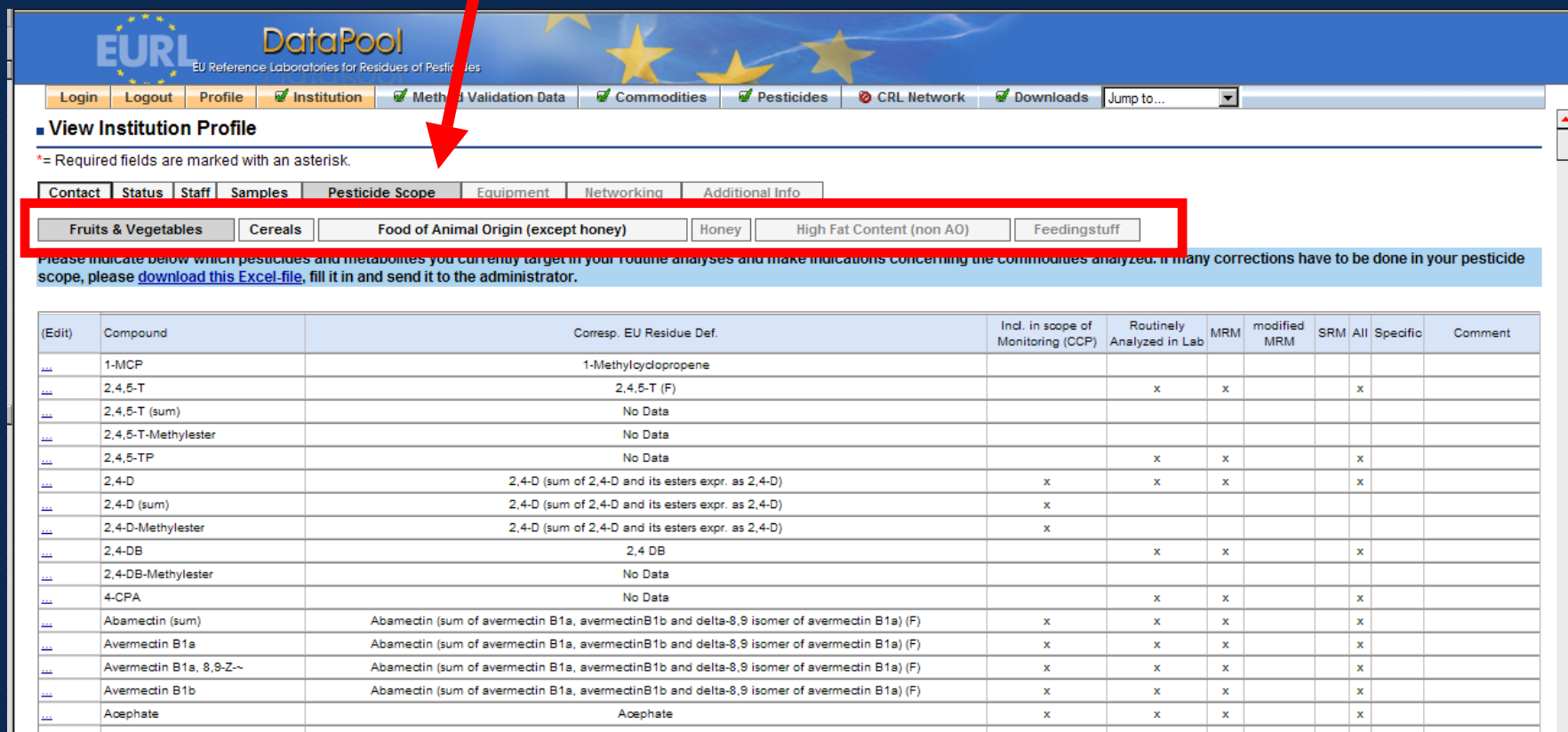
Please indicate the approx. numbers of official samples analyzed per year (round to 10 when <100 samples and to 50 when >100 samples)

| Sample type | No. of official samples analyzed per year | Thereof within EU-Coord. Control Progr. | Thereof analyzed by sub-contracted labs |
|--|---|---|---|
| Fruits and vegetables (incl. processed FV) | <input type="text" value="2500"/> | <input type="text" value="180"/> | <input type="text"/> |
| Cereals | <input type="text" value="300"/> | <input type="text" value="0"/> | <input type="text"/> |
| Feeding stuff | <input type="text" value="0"/> | <input type="text"/> | <input type="text"/> |
| Food of animal origin (except honey) | <input type="text" value="0"/> | <input type="text" value="0"/> | <input type="text"/> |
| Food of high fat content (non animal origin) | <input type="text" value="0"/> | <input type="text"/> | <input type="text"/> |
| Honey | <input type="text" value="20"/> | <input type="text"/> | <input type="text"/> |
| Baby food | <input type="text" value="20"/> | <input type="text"/> | <input type="text"/> |

Data used to fill-in Lab-Network database:

Part I: Lab Contact Data & Commodity Scopes

Part II: Pesticide scope by matrix



EURL DataPool
EU Reference Laboratories for Residues of Pesticides

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View Institution Profile

*= Required fields are marked with an asterisk.

Contact Status Staff Samples **Pesticide Scope** Equipment Networking Additional Info

Fruits & Vegetables Cereals Food of Animal Origin (except honey) Honey High Fat Content (non AO) Feedingstuff

Please indicate below which pesticides and metabolites you currently target in your routine analyses and make indications concerning the commodities analyzed. If many corrections have to be done in your pesticide scope, please [download this Excel-file](#), fill it in and send it to the administrator.

| (Edit) | Compound | Corresp. EU Residue Def. | Incl. in scope of Monitoring (CCP) | Routinely Analyzed in Lab | MRM | modified MRM | SRM | All | Specific | Comment |
|--------|------------------------|---|------------------------------------|---------------------------|-----|--------------|-----|-----|----------|---------|
| ... | 1-MCP | 1-Methylcyclopene | | | | | | | | |
| ... | 2,4,5-T | 2,4,5-T (F) | | x | x | | | x | | |
| ... | 2,4,5-T (sum) | No Data | | | | | | | | |
| ... | 2,4,5-T-Methylester | No Data | | | | | | | | |
| ... | 2,4,5-TP | No Data | | x | x | | | x | | |
| ... | 2,4-D | 2,4-D (sum of 2,4-D and its esters expr. as 2,4-D) | x | x | x | | | x | | |
| ... | 2,4-D (sum) | 2,4-D (sum of 2,4-D and its esters expr. as 2,4-D) | x | | | | | | | |
| ... | 2,4-D-Methylester | 2,4-D (sum of 2,4-D and its esters expr. as 2,4-D) | x | | | | | | | |
| ... | 2,4-DB | 2,4 DB | | x | x | | | x | | |
| ... | 2,4-DB-Methylester | No Data | | | | | | | | |
| ... | 4-CPA | No Data | | x | x | | | x | | |
| ... | Abamectin (sum) | Abamectin (sum of avermectin B1a, avermectinB1b and delta-8,9 isomer of avermectin B1a) (F) | x | x | x | | | x | | |
| ... | Avermectin B1a | Abamectin (sum of avermectin B1a, avermectinB1b and delta-8,9 isomer of avermectin B1a) (F) | x | x | x | | | x | | |
| ... | Avermectin B1a, 8,9-Z~ | Abamectin (sum of avermectin B1a, avermectinB1b and delta-8,9 isomer of avermectin B1a) (F) | x | x | x | | | x | | |
| ... | Avermectin B1b | Abamectin (sum of avermectin B1a, avermectinB1b and delta-8,9 isomer of avermectin B1a) (F) | x | x | x | | | x | | |
| ... | Acophate | Acophate | x | x | x | | | x | | |
| ... | Acophate | Acophate | | | | | | | | |