

Improving the handling of residue cases in organic production – part I «Quick Scan»



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I. Summary

The aim of the «Quick Scan» project is to provide an inventory of current procedures concerning residue cases in organic products. To this end, experts were interviewed about the current situation in their respective countries. 19 control bodies (CBs), 29 control authorities (CAs) and 5 food companies returned a completed questionnaire. The following 25 EU Member States are covered in the Quick Scan: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Ireland, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Romania, Slovenia, Spain, Sweden and UK.

Sampling procedures are governed by European and national legislation, as well as by internal documents. Sample selection is governed mainly by risk assessment and by the requirement to include 5 % of operators. In many countries, CBs are free to choose laboratories, while in other countries, the authorities provide a list of labs from which to choose.

Experts from 17 out of 25 Member States (MS) (= 72 %) reported that for each pesticide residue case, an investigation is carried out, irrespective of the residue level. For 6 MS (= 20 %), it was reported that whether an investigation is carried out depends on pesticide residue level. For 2 MS (= 8 %), it was reported that an investigation is carried out on a case by case basis.

Experts from 8 out of 25 MS (= 32 %) reported that products containing unauthorized pesticides are always de-certified, irrespective of quantity, cause and accountability. For 6 MS (= 24 %), it was reported that the decision on de-certification depends on pesticide residue levels. For 11 MS (= 44 %), it was reported that a de-certification decision is taken on a case by case basis.

Experts from 4 out of 25 MS (= 16%) mentioned that residue cases are always reported to the official authority while in 3 MS (= 12%), residue cases are notified on a case by case basis. For 18 MS (= 72 %), no details were provided.

The main finding of this survey is that residue findings in organic products are handled very differently across EU MS. The heterogeneity is significant and concerns all aspects, from the legal basis to sampling and lab selection, case investigation, evaluation and exchange of information.

2. Introduction

2.1 Handling of pesticide ‘residue cases’ in EU organic production

Sampling and analysis have become an important tool for the quality assurance of organic products. As the current EU organic legislation contains very little guidance, competent authorities and other actors have developed their own procedures and interpretations.

2.2 About this project

The aim of the «Quick Scan» project is to provide an inventory of current procedures concerning residue cases. It illustrates the variability in interpretations and implementation of the current regulation in different European countries, and of the procedures applied to cover topics such as instructions for sampling, analysis, evaluation (e.g. threshold values) and follow-up (e.g. de-certification), as far as such instructions are available. The Quick Scan is not intended to provide a comprehensive overview of the situation in all EU MS.

This project was carried out by FiBL in spring 2019 on request by the Organic Processing and Trade Association (OPTA). The Quick Scan is largely based on information which was provided by interview partners.

2.3 Presentation of results

The aim of the report is to provide an overview of the various approaches regarding the handling of pesticide residues. In order not to victimize individual MS the report does *not include a country-specific presentation* of the results. A direct comparison between countries seems inappropriate due to the following reasons:

- The completeness of data provided varies between MS
- The information provided by experts was not verified by FiBL and the correctness cannot be guaranteed
- National Regulations, Directives and other acts as well as guidelines and procedural descriptions are in most cases only available in the national language and therefore could not be analysed in detail

3. Methods

3.1 Expert interviews

The range of experts interviewed comprised staff from control authorities, control bodies and additional experts from OPTA member organizations.

Expert selection

Control authorities and control bodies were selected, where possible, from the FiBL Network. If there was no direct contact available, the following websites were used to identify relevant contact persons: www.organicexport.info, OFIS Website, DG-Sante country profile, IFOAM Website.

Questionnaire sent to the experts

For the interviews a questionnaire was developed, addressing the following topics:

- Legal basis for handling pesticide residues in organic production
- Role/responsibility of the organization regarding the handling of pesticide residues
- Available tools (guidelines, manuals etc.) for the designated tasks of the organization
- Laboratory selection
- Sampling procedure
- Evaluation of analytical results (cause investigation, measures in case of pesticide detections)
- Exchange of information (notification, record) in case of pesticide detections
- Assessment of the current situation (personal opinion, suggested improvements)

The complete questionnaire is shown in Annex I. The questionnaire was sent to the experts by E-Mail. Where required, a follow-up was done by phone.

Participation of experts

The questionnaire was sent out to 74 control bodies (CBs) and 66 control authorities (CAs). 19 CBs and 29 CAs returned the completed questionnaire. In addition, the questionnaire was sent to all OPTA members, out of which 5 companies from 2 Member States returned the completed questionnaire.

3.2 Complementary research

In cases where questionnaire responses were unclear and respondents not available, the following additional online information sources were checked:

- DG SANTE country profiles (http://ec.europa.eu/food/audits-analysis/country_profiles/)
- FiBL OrganicExport Info (www.organicexport.info)
- IFOAM EU Website (<https://www.ifoam-eu.org/en/>)(Internetadresse ?)

In order to identify articles relevant for the handling of pesticide residues the European Organic Legislation (Reg. (EU) 2018/848, Reg. (EC) No 834/2007, Reg. (EC) 889/2008, Reg. (EC) No 1235/2008) was checked.

For most EU Member States, it was possible to gather information with expert interviews. For Bulgaria, France and Hungary, no experts participated in the interviews. For these countries, we substituted the information from an unpublished compilation by the EU group of the International Federation of Organic Agriculture Movements (IFOAM).

3.3 Countries covered in the Quick Scan

In total, the 25 EU Member States shown below are covered in the Quick Scan (for countries marked with *, the information was obtained from a compilation of IFOAM). In cases where more than one expert responded for the same country, the answers were pooled.

- Austria
- Belgium
- Bulgaria*
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France*
- Germany
- Greece
- Hungary*
- Ireland
- Italy
- Lithuania
- Luxembourg
- Malta
- Poland
- Romania
- Slovenia
- Spain
- Sweden
- The Netherlands
- UK

Within the framework of the Quick Scan no information could be gathered for the following EU countries:

- Latvia
- Portugal
- Slovakia

4. Results

4.1 Laws and private guidelines governing the handling of residue cases

As part of the interviews, participants from the respective countries were asked about the legal basis which governs the handling of pesticide residues. The most frequently mentioned regulations are presented below and particularly relevant passages explained in more detail.

4.1.1 Relevant EU legislation

Obligation to take samples

Requirements for sampling and analysis as part of the organic control are addressed in Regulation (EC) 889/2008, Regulation (EC) No 882/2004 and the new control Regulation (EC) 2017/625.

According to Article 65 (2) of Reg. (EC) 889/2008:

- Control authorities (CAs) or control bodies (CBs) have to take and analyse samples on a routine basis in order to detect products/substances not authorised for organic production
- The number of samples taken and analysed each year has to be at least 5 % of the number of operators under their control
- The selection of samples has to be risk based at all stages of production, preparation and distribution
- In cases where the use of a non-authorised product is suspected, sampling and analysis has to be carried out

Minimum number of samples

According Reg. (EC) No 882/2004 and the new control regulation (EC) 2017/625 control authorities have to ensure that feed and food business operators:

- can obtain sufficient numbers of samples for a supplementary expert opinion (Art. 11 (6) of Reg. (EC) No 882/2004; Art. 35 (2) (a) Reg. (EC) 2017/625)
- can obtain sufficient numbers of samples for a review of the initial analysis, test or diagnosis in case of disagreement between operator and CA (Article 35 (2) (a))

Measures in case of suspicion of non-compliance or pesticide detection

Measures that have to be taken in case of suspicion of non-compliance (e.g. use of pesticides) or pesticide detections are addressed in Regulation (EC) 889/2008 and the new Regulation (EU) 2018/848.

According to Reg. (EC) 889/2008 the following measures have to be taken in case of suspicion of non-compliance:

- Where an operator suspects that a product which he has produced, prepared or received from another operator is not in compliance with organic production rules, he has to immediately inform the CA or CB (Article 91 (1) of Reg. (EC) 889/2008)
- The CA or CB may require a provisional marketing ban of the product as organic, until the suspicion is eliminated. Before taking such a decision, the CA or CB has to allow the operator to comment (Article 91 (2) of Reg. (EC) 889/2008)

The new Organic Regulation (EU) 2018/848 describes the following measures to be taken in the event of the presence of non-authorized products or substances:

- Where the competent authority, or, where appropriate, the control authority or control body, receives substantiated information about the presence of products or substances that are not authorized for use in organic production, products concerned shall not be marketed as organic if the operator:
 - has used products or substances not authorized for use in organic production (Article 29 (2) (a) of Regulation (EU) 2018/848)
 - has not taken measures that are proportionate and appropriate to avoid risks of contamination of organic production with unauthorized substances (Article 29 (2) (b) of Regulation (EU) 2018/848)
 - has not taken measures in response to relevant previous requests from the competent authorities, control authorities or control bodies (Article 29 (2) (c) of Regulation (EU) 2018/848)

According to Article 29 (3) of Regulation (EU) 2018/848 the operator concerned shall be given an opportunity to comment on the results of the investigation.

According to Article 29 (5) of Regulation (EU) 2018/848 MS having in place national rules to be taken in the event of the presence of non-authorized products may continue to apply those rules if they do not prohibit, restrict or impede the placing on the market of products produced in other MS in compliance with this Regulation.

Exchange of information

The exchange of information in case of pesticide residues is addressed in Regulation (EC) 834/2007, Reg. (EC) 889/2008 and the new Regulation (EU) 2018/848.

According to Article 30 (2) of Reg. (EC) 834/2007 information on cases of irregularities or infringements affecting the organic status of a product shall be immediately communicated between the control bodies, control authorities, competent authorities and MS concerned and, where appropriate, to the Commission. The level of communication shall depend on the severity and the extent of the irregularity or infringement found.

According to Article 63 (2) (h) of Reg. (EC) No 889/2008 operators have to inform the relevant CAs, CBs without delay of any irregularity or infringement affecting the organic status of their product or organic products received from other operators or subcontractors.

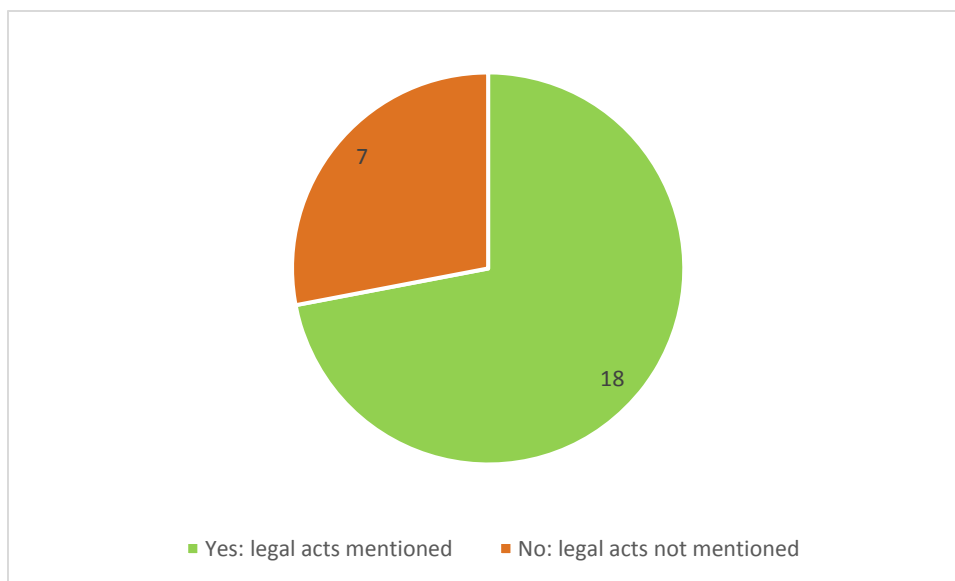
According to Article 92a (1) of Reg. (EC) No 889/2008 if a MS finds irregularities or infringements in a product originating from another MS, it has to notify the MS which designated the control authority or approved the control body, the other MS and the Commission without delay via OFIS.

According to Article 92a (4) of Reg. (EC) No 889/2008 a MS which receives a notification about an irregularity or infringements has to investigate the origin of the irregularities and to inform the other MS and the commission about the results of the investigation within 30 calendar days from the date of the original notification.

4.1.2 Relevant national legislation and provisions

As part of the interviews, participants from the respective countries were asked about relevant national legislation regarding the handling of pesticide residues. Details regarding the number of countries where national legal acts were mentioned is shown in figure 1.

Figure 1: Number of countries where national legal acts were (not) mentioned



Details regarding the name or number of national legal acts mentioned in different countries are shown in Annex II. National Regulations, Directives and other acts are in most cases only available in the national language. Therefore, no detailed analysis and evaluation was carried out.

4.1.3 Private Guidelines

As part of the interviews, participants from the respective countries were asked about relevant private guidelines regarding the handling of pesticide residues. The private guidelines mentioned by interviewed experts from 3 out of 25 are briefly presented below.

BNN Orientation Value

BNN (Bundesverband Naturkost Naturwaren Herstellung und Handel e.V.) is the German Organic Processors and Traders Association. In 2001, BNN adopted a guideline to evaluate pesticide residues in organic products; the current version dates from 2012 (BNN 2012). It is the oldest interpretation guideline for pesticide residues in organic foods. According to this guideline, the source of contamination is only investigated in cases where the orientation value is exceeded. Although the orientation value is binding only for the BNN member companies, it is widely followed in the European organic sector on a voluntary basis. It was translated into the Czech language and is also followed by stakeholders in the Czech Republic. A central element is the 'orientation value' of 0.010 mg/kg. Residues exceeding the orientation value will lead to an investigation, but not automatically to de-certification.

EOCC Guidelines

EOCC (European Organic Certifiers Council) is an organization of organic certifiers in Europe. The EOCC has formed a 'task force residues', which developed the 'EOCC pesticide residues guideline', and presented it to the public in 2012 (EOCC 2012a). This guideline also follows the BNN concept of an orientation value of 0.010 mg/kg, but the value is called 'action level'. This guideline emphasizes the procedural aspects, in which certifiers should handle pesticide residues. Together with this guideline, the 'EOCC task force residues' has also published a discussion paper, in which the possibilities of applying a maximum pesticide level for organic products are discussed (EOCC 2012b). This maximum level is called 'critical level'. The task force proposed that the critical level might be set at a value of 10 % of the MRL, but does not insist on this particular value.

IFOAM Guidelines

IFOAM (International Federation of Organic Agriculture Movements) is the worldwide umbrella organization of the organic sector; the IFOAM EU-group is IFOAM's European branch. The IFOAM EU-group presented the 'Guideline for pesticide residue contamination for international trade in organic' to the public in 2012 (IFOAM EU group 2012). This Guideline also follows the BNN concept of an orientation value of 0.010 mg/kg, but the value is called 'action level'. This guideline gives considerably more guidance on sampling, including the sampling of non-food materials.

4.2 Guidance on sampling and lab selection

4.2.1 Sampling procedure

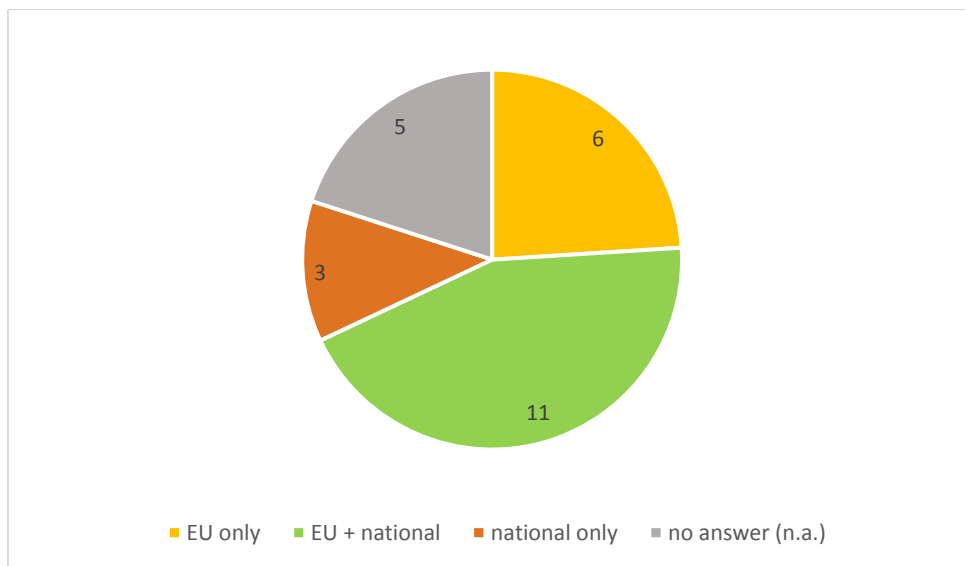
Legal basis for the sampling procedure

In Part 5 of the questionnaire the experts were asked about their sampling procedure and the basis for their sampling plan. Experts from 6 out of 25 Member States (MS) (24 %) reported that sampling procedures are based only on European legislation. For 11 out of 25 MS (44 %), the experts reported that sampling procedures are based on European legislation and additional national laws, directives and other acts. For 3 out of 25 MS (20 %), the experts reported that sampling procedures are based only on national law, but provided no details regarding their national legislation. For 5 MS, no answer was provided. An overview of the results regarding the legal basis for the sampling is shown in figure 2. In cases where European legislation was mentioned as a basis, the following details were given:

- 10 MS base their sampling procedure on Reg. (EC) 889/2008.
- 2 MS base their sampling procedure on Reg. (EC) 889/2008 and on Reg. (EC) 396/2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin.

- 1 MS bases its sampling procedure on Reg. (EC) 889/2008 and on Reg. (EC) 152/2009 laying down the methods of sampling and analysis for the official control of feed.
- 1 MS bases its sampling procedure on Reg. (EC) 889/2008 and on Reg. (EC) 691/2013 amending Regulation (EC) No 152/2009 regarding methods of sampling and analysis of feed.
- 1 MS bases its sampling procedure on Reg. (EC) 889/2008 and on Reg. (EC) 882/2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules.
- 2 MS base their sampling procedure on European Law, but no specific law was mentioned.

Figure 2: Legal basis for the sampling procedure



Criteria applied for sample selection

The following legal requirements applied in their sampling procedure were mentioned by national experts from 20 MS:

- Risk-based sampling (mentioned 15 times)
- At least 5 % of operators under control (mentioned 13 times)
- Additional random sampling (mentioned 5 times)
- In case of suspicion (mentioned 4 times)
- Minimum of three samples taken according to Art. 11 (6) of Reg. (EC) No 882/2004 (mentioned 1 time)

As outlined above, not all countries have explicitly mentioned to apply a risk-based sampling procedure and to take and analyse samples from at least 5 % of their controlled

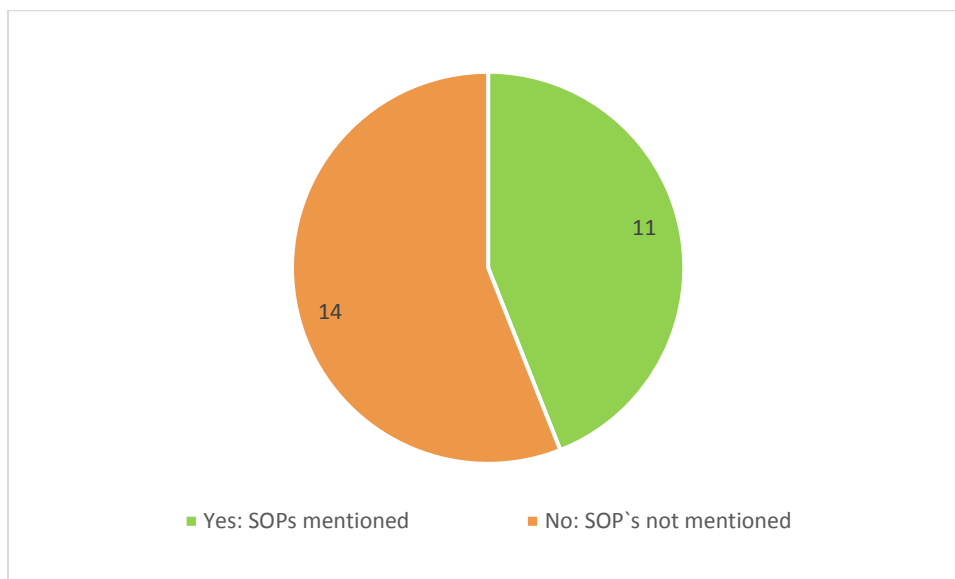
operators. Nevertheless, for countries referring to the Reg. (EC) 889/2008, the application of these criteria can be assumed.

Internal sampling procedures CBs and CAs

Experts from 11 out of 25 MS (44 %) reported that CBs and CAs apply additional internal sampling procedures (standard operating procedures / SOPs; see figure 3). The following information about their internal procedures was given:

- Experts from 1 MS reported that CBs have to take samples from at least 50 % / 60 % of operators under their control (different values were given for different regions of that country).
- Experts from 1 MS reported that only staff specifically trained by the CB is assigned to take samples.
- Experts from 9 MS provided no details regarding this point in the questionnaire. Note: Attached documents describing sampling procedures in national languages were not analysed.

Figure 3: Internal sampling procedures (standard operating procedures; SOPs) mentioned by CBs and CAs



Consideration of risk factors in the selection of samples

Experts from 9 out of 25 MS (36 %) provided information about factors taken into account for determining the level of risk of operators. For 16 MS no such information was provided. The following risk factors were mentioned:

- History of operator and earlier inspection reports (mentioned 5 times)
- Parallel conventional production at one production site (mentioned 3 times)
- Notifications/warnings provided by official authorities from other MS and/or the EU commission (e.g. RASFF - Rapid Alert System for Food and Feed) (mentioned 2 times)
- Quantity of products concerned (mentioned 2 times)
- Country of origin, especially third countries (mentioned 2 times)
- Size of operator (mentioned 1 time)
- Product category (mentioned 1 time)

4.2.2 Lab selection

One part of the questionnaire asked how laboratories for the analysis of samples are selected. Experts from 20 out of 25 MS (80 %) provided information about the lab selection criteria, while no information was provided for 5 MS. The following details about the selection criteria were mentioned:

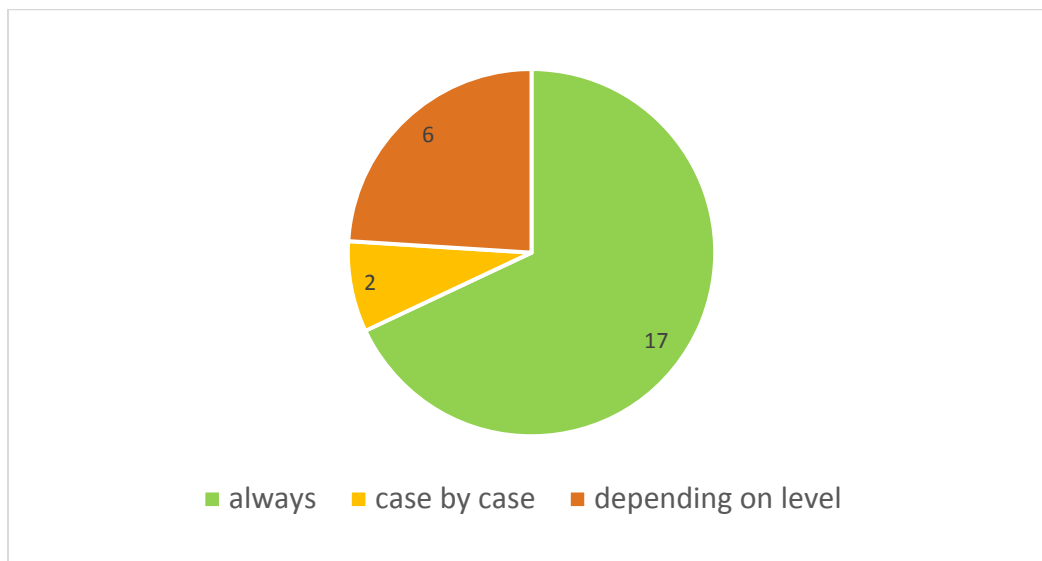
- Experts from all 20 MS reported that only laboratories accredited according to ISO 17025, EN 45002 or EN 45003 are chosen.
- Experts from 7 MS additionally reported that the selection of accredited laboratories is assigned to CBs. For 2 out of these 7 MS, they added that BNN recognised or Relana accredited laboratories are preferred.
- Experts from 7 MS additionally reported that the selection of laboratories is limited to a national lab list (designated by the CA).

4.3 Evaluation of residue cases

4.3.1 Investigation of residue cases

Part 6 and 8 of the questionnaires addressed the question in which cases and at which pesticide residue level an investigation is carried out. The answers ranged from 'always', 'case by case', to 'depending on residue level'. An overview of the results regarding the investigation of pesticide residue cases is shown in figure 4.

Figure 4: Investigation in case of pesticide residues



Investigation 'always'

Experts from 17 out of 25 MS (72 %) reported that for each pesticide residue case, an investigation is carried out, irrespective of the residue level.

Note: For some countries, it was reported that investigations are carried out only if the limit of detection (LOD) is exceeded. These answers were counted as equivalent to 'always'. The same applies if the limit of quantification (LOQ) was mentioned.

Investigation 'case by case'

Experts from 2 out of 25 MS (8 %) reported that an investigation is carried out on a case by case basis. In this context, few details were given regarding factors influencing this case by case decision. Only one reply provided a bit more details about the procedure and mentioned "considerable suspicion" as a factor for case investigation. No details were given regarding what is considered suspicious, except that it is decided in agreement with the control authority.

Investigation 'depending on pesticide residue level'

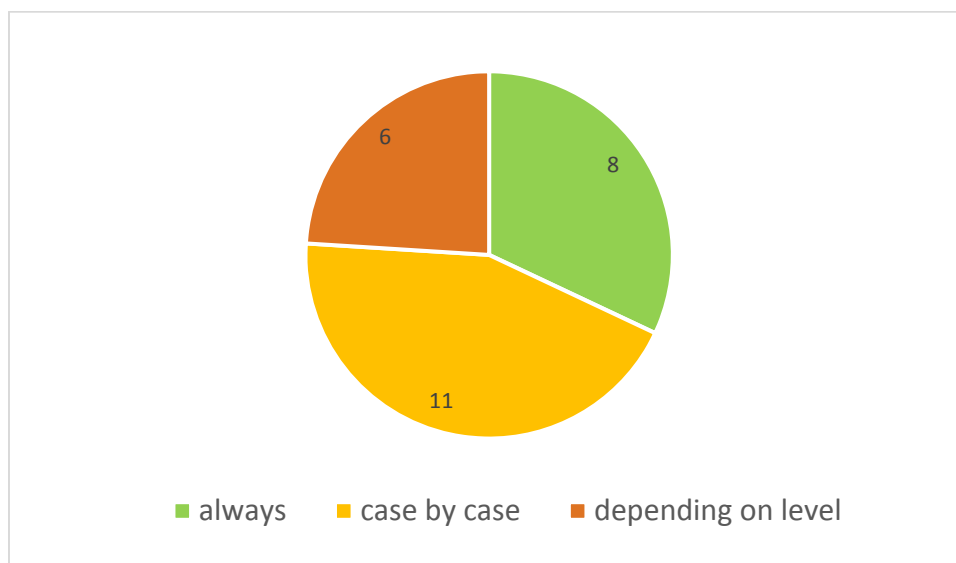
Experts from 6 out of 25 MS (20 %) reported that it depends on pesticide residue level whether an investigation is carried out. The following details regarding the values of pesticide residues leading to investigations were provided:

- Experts from 3 MS reported that pesticide residues above 0.01 mg/kg lead to further investigations. For 2 out of these 3 MS, the BNN guidelines were explicitly referred to.
- For 3 MS, we received inconsistent responses regarding the investigation levels. The answers varied between '0.01 mg/kg' (reported by control bodies), '0.02 mg/kg' (reported by companies) and 'always' (reported by control authorities).

4.3.2 De-certification and other sanctions following residue cases

Part 6 and 8 of the questionnaires addressed the question when and at which pesticide residue level products are de-certified or followed by other sanctions. An overview of the results regarding the de-certification of products containing unauthorised pesticide residues is shown in figure 5.

Figure 5: De-certification in case of pesticide residues



De-certification 'always'

Experts from 8 out of 25 MS (32 %) reported that products containing unauthorized pesticides are always de-certified, irrespective of quantity, cause and accountability. In this context answers specifying the limit of detection (LOD) or limit of quantification (LOQ) as threshold for de-certification were considered and counted as 'always' and not as 'dependent on level'. For 1 out of these 8 MS, the experts reported substance-related exceptions, where residues of phosphonates, chlorates or ammonium salts do not always lead to de-certification.

De-certification 'case by case'

Experts from 11 out of 25 MS (44 %) reported that a de-certification decision is taken on a case by case basis. No typical approach regarding case by case evaluation could be identified. Factors considered in the de-certification decision varied between MS, and also between regions and between CAs, CBs and companies within a given MS. The following factors were reported to be relevant for the discrimination between unauthorized use and contamination and therefore for the certification decision:

- Measurement uncertainty (mentioned for 5 MS)
- Processing factors (mentioned for 5 MS)
- Knowledge of potential substance related contamination sources not related to unauthorised use (e.g. cross contamination via water, air, soil particles)
- Knowledge of persistent substances
- Inspection reports and documentation provided by operators

De-certification 'depending on pesticide residue level'

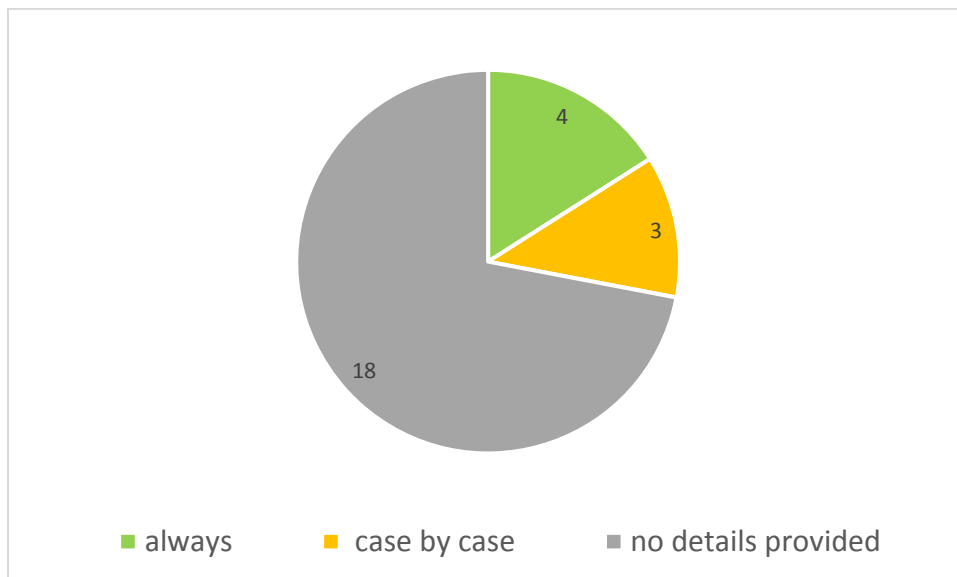
Experts from 6 out of 25 MS (24 %) reported that the decision on de-certification depends on pesticide residue levels. The following details regarding the values of pesticide residues leading to de-certification were provided:

- Experts from 3 out of these 6 MS reported that pesticide residues above 0.01 mg/kg lead to de-certification of the products concerned even in the event of accidental and technically unavoidable contamination. For 1 out of those 3 MS, the consideration of measurement uncertainty and processing factors was explicitly mentioned.
- Experts from 1 MS reported a de-certification level of 80 % of the maximum residue level (MRL). No details concerning the application of processing factors and measurement uncertainties were provided.
- For 1 MS, the experts reported different de-certification levels ranging from 0.01mg/kg and 0.04mg/kg
- For 1 MS, the experts reported different de-certification levels depending on the region. The answers ranged from 'limit of determination' to '1.5 times limit of determination (as defined in Regulation (EC) No 396/2005), including uncertainty of measurement'. In addition the application of processing factors also varied: for one region, the use of a threshold of 0.015 mg/kg for mixed and processed products was reported, while for another region the use of processing factors was not stated.

4.4 Exchange of information

One part of the questionnaire addressed the exchange of information (from CB to CA and CA to Commission) in the event of residue cases. An overview of the results regarding the notification of other organisations in case of pesticide residues is shown in figure 6.

Figure 6: Notification in case of pesticide residues of CAs, CBs and operators



Notification 'always'

Experts from 4 out of 25 MS (16 %) reported that residue cases are always reported to the official authority (notification by CB) or to other MS concerned via the Organic Farming Information System (OFIS) (notification by CA). In this context, responses indicating the limit of detection (LOD) or limit of quantification (LOQ) as the threshold for a notification were counted as 'always'.

Notification 'case by case'

Experts from 3 out of 25 MS (12 %) reported that official authorities or other MS are notified on a case by case basis. The following details were provided:

- Experts from 1 MS reported that notification criteria and decisions vary depending on the responsible regional authorities. No details regarding the notification criteria of the different authorities were provided.
- Experts from 1 MS reported that notification criteria and decisions vary depending on the responsible regional authorities and the information policy of companies concerned. No details were provided.
- Experts from 1 MS reported that notification criteria and decisions vary depending on the information policy of companies concerned. One company in this MS described the formal policy of CBs to report every residue finding. In

practice, however, the expert stated to inform the CB depending on the frequency and level of pesticide residues. Another company from the same MS reported to inform the control body about values above 0.02 mg/kg if only one substance was found and to inform the CB always if more substances were found.

Experts from 18 out of 25 MS (72 %) did not provide details regarding their notification procedure.

4.5 Assessment of the current situation and approaches by the interview partners

In one part of the questionnaire, the experts were asked for a personal assessment of the current situation regarding the handling of pesticide residues in organic production. They commented on the situation in their countries or in the EU as a whole, as well as on different approaches, regardless whether this approach was applied in their country or not.

Problems with the current situation that were mentioned

The following problems were highlighted by the interviewed experts:

- The organic legislation leaves room for interpretation (mentioned 3 times)
- Lack of clear, detailed guidance from the European Commission (mentioned 3 times)
- Although private guidelines (from IFOAM, EOCC, BNN etc.) are frequently consulted, they are not binding for control bodies (mentioned 2 times)
- Distortion of competition between different MS due to the lack of harmonisation (mentioned 4 times)
- High background levels of environmental contaminants and increasingly accurate analytical methods leading to an increase of residue cases. Lack of clear guidance on how to deal with such cases (e.g. samples with positive results below LOQ close to LOD) (mentioned 1 time)
- Insufficient sanctions against CB's which do not take appropriate measures

Suggestions for improvement of the current situation

The following suggestions were mentioned by the interviewed experts:

- EU-wide harmonisation regarding the handling of residue cases
- EU-wide common understanding regarding substances with high contamination potential

Judgement of the ‘case by case’ approach

The experts also provided their opinion about different approaches applied in the European Union. The case-by-case approach was commented as follows:

- It provides flexibility for consideration of context factors e.g.:
 - Operator (history, previous reports, surroundings)
 - Substances (contamination risk of substances)
- It is a process oriented approach focused on other advantages of organic production, not only on analysis
- It causes extensive investigations with the following consequences:
 - blocking of the storage facilities of food companies
 - for foods with a short shelf life: disposal or marketing as conventional
- Expert knowledge is essential

Judgement of the ‘de-certification level’ approach

The approach of the de-certification level was commented as follows:

- It provides consumer protection and meets consumer expectations.
- It helps to protect the good reputation of organic products.
- It is easy and fast to handle in the day-to-day work and decision-making by CBs and CAs.
- Less expert knowledge is required for evaluation.
- There are heterogeneous de-certification levels which are not harmonized between MS.
- Whether or not processing factors have to be applied is not harmonized.
- There is no consideration of context factors (e.g. history and surroundings of the operator, substances found).

5. Discussion and Conclusions

5.1 Diversity of approaches reported

The main finding of this survey is that residue findings in organic products are handled very differently across EU MS. The heterogeneity is significant and concerns all aspects, from the interpretation of organic regulation, the legal basis to sampling and lab selection, case investigation, evaluation and exchange of information.

5.1.1 Heterogeneous investigation procedures

The survey has shown that investigation procedures vary significantly between MS. In addition, they also vary between CAs, CBs and companies within one MS.

The replies regarding the investigation procedure ranged from 'always', to 'case-by-case' and 'depending on level'. Where more than one answer was provided for a MS, we often noted that the answers were not the same. In particular, we noted that the term 'substantiated suspicion' is interpreted differently between MS, and also between CAs, CBs and companies.

5.1.2 Heterogeneous de-certification and downgrading levels

The survey has shown that de-certification and downgrading procedures and levels vary significantly between MS and also between CAs, CBs and companies within one MS.

The replies regarding de-certification procedures ranged from 'always' to 'case-by-case' and 'depending on level'. Context factors (company and substance-related information) which are used as the basis for case-by-case decisions and for distinguishing between unauthorised use of substances and contamination varied between MS and also between CAs, CBs and companies within one MS. Levels reported by the interviewed experts ranged from 0.01 mg/kg to 0.04 mg/kg, 80 % of the MRL and 1.5 times limit of detection.

5.1.3 Heterogeneous information procedures

In this survey, experts from only 7 MS provided information about their reporting procedures and which residue cases are reported by whom to whom. Already the statements for these 7 MS showed clearly that the interpretation of what is considered as an 'irregularity' and has to be reported differs from CB to CB, from CA to CA and from company to company. A common understanding of the term 'irregularity affecting the organic status of a product' is missing.

5.1.4 Areas where few details were provided

Little information was provided about sampling and laboratory selection procedures. In particular, details regarding the training of inspectors, the time of sampling and the risk assessment of operators were described by very few experts. If details were given, the interview partners mostly referred to internal procedures that are not available to the

public or to national procedures available only in the national language. A detailed analysis and evaluation of sampling or laboratory selection procedures was therefore not possible within the scope of the Quick Scan.

5.2 Reasons for the heterogeneity

5.2.1 Organic legislation leaves room for interpretation

In our opinion, the main reason for the observed heterogeneity is that the current organic legislation leaves substantial room for interpretation. For example, one expert stated to interpret the law in such a way that they have to de-certify organic products containing residues above LOD, while other experts do not regard this as a mandatory measure and one expert even stated that the organic legislation does not allow to de-certify products as a consequence of residues. Combined with a lack of clear guidelines from the European Commission, this leads to different approaches applied by CAs, CBs and companies in different MS.

5.2.2 Technical terms lacking specification

For several technical terms, there is no common understanding how they have to be interpreted in this context, and therefore they are not homogeneously applied. Examples include the terms 'substantiated suspicion' and 'irregularity'. Furthermore, there is also no common understanding regarding risk orientation, measurement uncertainty and the application of processing factors.

5.2.3 Process focus versus product focus

The organic regulation focuses on the production *processes*, and organic control systems are primarily designed to verify the compliance of these processes. By contrast, residue analyses are designed to verify *product* characteristics. At the moment, it is not clear how the analytical approach can best be incorporated into the organic control system while *maintaining the process focus*. This unresolved issue seems to be a main source of confusion.

5.2.4 Lack of expertise

The handling of residue cases requires highly specialized knowledge. It is a challenge for companies, CBs and CAs to keep up with the latest developments in this area, and appropriately trained staff are not always available. At the level of individual residue cases, heterogeneous procedures and/or decisions can often be traced back to a lack of knowledge.

5.3 Consequences of heterogeneity for international trade

The heterogeneity in the handling of residue cases has a negative impact on international trade. Operators in countries where de-certification levels are in place are particularly affected.

According to Article 29 (5) of Regulation (EU) 2018/848 MS having in place threshold values may continue to apply those rules provided that they do not lead to market distortion. For a detailed analysis of the consequences of the heterogeneity for international trade (e.g. effect on supply of organic products, supplier structure, delivery security, delivery delays) a separate research project would be required.

5.4 Concluding remarks

The heterogeneity which is currently observed is not desirable, and most of the experts advocated for a harmonization. The European organic sector should agree on clear objectives and on better procedures for handling residue cases. Although the need for clarification and harmonization concerns many aspects, it seems to be particularly important for the topic of de-certification levels, where we found great heterogeneity between countries. Furthermore, the meaning of technical terms such as ‘substantiated suspicion’ and ‘irregularity’ in the context of residue cases should be clearly defined, and clear guidance is required concerning measurement uncertainty and the application of processing factors. It is important to involve all stakeholders in the search for better procedures.

In general, there is a need to put the residue topic into the correct context within the process-based approach of organic production, thus clarifying the perception and objective of residue testing in the context of the process-focused organic control system.

6. Acknowledgements

We thank all interviewed experts for their valuable contribution to this survey, and Alexander Beck and Bavo van den Idsert for fruitful discussions. We also thank the IFOAM EU group for providing an unpublished compilation of country-specific information regarding the handling of pesticide residues. Many thanks also to the OPTA for funding the study.

Annex I: Questionnaire

Handling of pesticide residues in EU Member States

Marlene Ariana Milan, Regula Bickel, 2 April 2019

Please return completed questionnaire until 11.4.2019 to Marlene.milan@fibl.org

I. Organization details

Member State
Name and address
Contact person (name; E-Mail; phone)
Type of organization
<input type="checkbox"/> National Authority <input type="checkbox"/> State/regional Authority <input type="checkbox"/> Control Body <input type="checkbox"/> Company <input type="checkbox"/> Other:

Questionnaire

Please specify whether the procedures/tools are official (EU or national level), private (e.g. associations), internal or from your client. It is important to identify differences between the levels. Please send a copy of your procedures, if it is possible.

2. Legal basis

2.1 What is the legal basis (national, private, internal, client based) for handling pesticide residues in organic production in your situation?

3. Role and responsibility of the organization

3.1 What is the role and responsibility of your organization in the organic value chain regarding the handling of pesticide residues (e.g. operating, trading, inspection, sampling, analysis, interpretation, decertification, communication/reporting)?

4. Tools

4.1 Which tools (e.g. guidelines, manuals/process instructions etc.) are available to fulfil your designated tasks? (please send a copy, if possible)

5. Sampling procedure

5.1 Do you have a sampling procedure? Please send a copy, if possible or describe your procedure. If you are not responsible for sampling, please continue with 6.

5.2 If it is your internal procedure: what is the basis of the procedure? Is the sampling plan risk based, random based or according your clients order?

5.3 Laboratory: How do you select an adequate Laboratory for your analysis? Do you follow a specific procedure? (national, private, internal, client)

6. Evaluation of analytical results

6.1 Are there any guidelines for the handling of pesticide residues on national level? Please describe the guidelines or send us a copy if possible.

6.2 If you are following private guidelines, please choose which one:

- IFOAM Guideline for pesticide residue contamination for international trade in organic
- EOCC Pesticide residues guideline
- BNN Orientation value
- Internal procedure
- Other:

6.3 What are the rules for handling pesticide residues in the guideline you follow?

- Investigations are required at the following levels:
 - Limit of detection (LOD)
 - Limit of quantification (LOQ)
 - The following orientation value:
 - The following threshold value:
 - No fixed rules, Case by case
 - Other:

- Decertification is prescribed at the following levels:

- Limit of detection (LOD)
- Limit of quantification (LOQ)
- The following orientation value:
- The following threshold value:
- No fixed rules, Case by case
- Other:

7. Notification

7.1 Do you notify other organisations/people about the residue cases?

- Yes notification of certifier
- Yes notification of official authority
- No
- Other:

In which cases:

8. Investigation

8.1 Do you investigate the causes of pesticide residues?

- Always
- In the following case:
- No
- Other:

9. Sanctions

9.1 Do you decertify and/or downgrade organic products and/or operators when pesticide residues are detected?

Always

In the following case:

No

Other:

9.2 Which of the following factors do you consider in your certification decision?

Measurement uncertainty of:

Processing factors

Other:

9.3 Do you record the residue case in an official/private database?

Yes I provide the following information for the following official database:

Yes I provide the following information for the following private/internal database:

No

Other sanctions:

10. Assessment of the current situation

10.1 What is your personal opinion about EU and/or the national legislation for handling pesticide residues in organic production?

10.2. Which improvements do you suggest?

10.3. Which other comments do you have?

Annex II: Relevant national legislation and provisions

Member State	Name/number of national legislation or provisions
A) Countries for which national legal acts were mentioned	
Austria	<ul style="list-style-type: none"> • EU Quality Regulations Implementation Act (EU-QuaDG) and related publications of the Supervisory Committee according to § 5 EU-QuaDG
Belgium	<ul style="list-style-type: none"> • Flemish Government Decree of 12 December 2008 on Organic Production and Labelling of Organic Products • Decree of Walloon Government (AGW) of 11 February 2010 on the production method and labelling of organic products (M.B. of 15/04/2010, p. 21327) • Decree of the Government of the Brussels-Capital Region of 3 December 2009
Bulgaria	<ul style="list-style-type: none"> • National Ordinance No. 5/2018 on organic production, labelling and control
Croatia	<ul style="list-style-type: none"> • Ordinance on organic agriculture - Narodne novine 19/16 • Law on official controls for food and feed -Narodne novine 81/13, 56/15, 32/19 • Law implementing Regulation 396/2005 on MRL of pesticides in or on food and feed of plant and animal origin- Narodne novine 80/13, 115/18 • Regulation on the designation of official and reference laboratories for food and feed - Narodne novine 86/10, 7/11, 74/13 • Agricultural law - Narodne novine 118/18 and Food Law - 81/13, 14/14, 115/18
Cyprus	<ul style="list-style-type: none"> • National N227(I)/2004 • National sampling guidelines (no details provided about name/number)
Czech Republic	<ul style="list-style-type: none"> • Organic Farming Act 242/2000 • Coll. Act No. 255/2012 on inspection • Methodological Guideline No. 7/2016 sampling, analysis and subsequent evaluation of samples from organic farming
Estonia	<ul style="list-style-type: none"> • Regulation No. 99 of the Ministry of Agriculture • National sampling guidelines (no details provided about name/number)
Greece	<ul style="list-style-type: none"> • Ministerial Decision No. 2543/103240/9-10-2017 of the Hellenic Government
Hungary	<ul style="list-style-type: none"> • Ministerial Decree No. 34/2013 of the Ministry of Rural Development
Ireland	<ul style="list-style-type: none"> • Catalogue of Infringements Republic of Ireland of the Department of Agriculture, Food and the Marine

Italy	<ul style="list-style-type: none"> • Ministerial Decree No. 309/2011 for evaluation of residues • Ministerial Decree No. 29/10/2010 Sampling procedures
Malta	<ul style="list-style-type: none"> • National legislation (no details provided about name/number)
The Netherlands	<ul style="list-style-type: none"> • National legislation (no details provided about name/number)
Poland	<ul style="list-style-type: none"> • Polish Act on Organic Farming of June 2009 • National regulation regarding data on the results of the analysis carried out and on official and reference laboratories and the scope of analysis performed by these laboratories • Regulation and guidelines on types of irregularities or infringements of regulations concerning organic farming and measures certification bodies are obliged to apply in case of identifying irregularities or infringements in control of organic farming
Romania	<ul style="list-style-type: none"> • National legislation - 34/2000 of 17th April 2000 for organic products
Slovenia	<ul style="list-style-type: none"> • Decree No 96/14 on measures to be taken in the event of irregularities and infringements in organic farming • Rules No 8/14 on the organic production and processing of agricultural products or foodstuffs
Spain	<ul style="list-style-type: none"> • National legislation (no details provided about name/number)
Sweden	<ul style="list-style-type: none"> • Law on Control of Organic Production [Lag (2013:363) om kontroll av ekologisk produktion] • Government Ordinance on Control of Organic Production (2013:1059)
B) Countries for which no national legal acts were mentioned	
Denmark	<ul style="list-style-type: none"> • None mentioned
Finland	<ul style="list-style-type: none"> • None mentioned
France	<ul style="list-style-type: none"> • None mentioned
Germany	<ul style="list-style-type: none"> • None mentioned
Lithuania	<ul style="list-style-type: none"> • None mentioned
Luxembourg	<ul style="list-style-type: none"> • None mentioned
UK	<ul style="list-style-type: none"> • None mentioned