

Position Paper

Thresholds or Limits for Organic Products: why BNN and its members say no

Bundesverband Naturkost Naturwaren (BNN) e.V. is the (German) Association of Organic Processors, Wholesalers and Retailers representing the interests of the specialized organic food and natural goods sector on a political and economical level. BNN's 220 members are small- and medium-scale enterprises. Many of the pioneers of the organic food sector are among the BNN members.

With this paper we want to support the position of IFOAM EU against a threshold for non-authorised substances like pesticides in organic products (see IFOAM EU Position Paper on Residue Threshold in Organic Products from 26th February 2014). In order to reason our opinion we would like to share our experience in pesticide detection and the investigation of the causes and give examples of residue detections. As the introduction of a pesticide threshold is reasoned with consumer expectations we would like to feedback also our compiled experience regarding consumer expectation on pesticides in organic products. But being opposed to a threshold does not mean that we are opposed to analyses. In order to better use the potential of analysis in inspection and certification control bodies and authorities should have procedures on how to take meaningful samples in place.

1. Experience of BNN in pesticide detection an investigation of the causes

In 2001 BNN members adopted the **BNN Orientation Value concept**. This guideline on the evaluation of pesticide detections in organic products is today used by most organic operators throughout Europe. BNN Orientation Value established the rule that all pesticide findings above 0,01 mg/kg have to be investigated in order to continuously improve organic quality and in order to exclude violation of the organic regulation. In case the provisions of organic agriculture were met the products stay marketable as organic (in accordance with the current legislation) – even at an exceedance of 0,01 mg/kg. The reason behind this is that there are many sources for accidental and unavoidable contaminations in a world that is dominated by conventional farming and pollution from industry (http://www.n-bnn.de/sites/default/dateien/bilder/Downloads/BNN-Orientierungswert_EN_04022014.pdf)

As author and editor of the BNN Orientation value and as the institution organising BNN-monitoring BNN may be called the most experienced organisation in Europe concerning pesticide analysis in organic products. BNN has been monitoring pesticides in organic products and has been involved in investigating the causes of the findings in organic products since 2003 when BNN-Monitoring was

founded. In the course of these 10 years, pesticide detections have decreased due to improvements in organic farming, transport, storage, processing and trade following pesticide detections and their investigation.

2. Opinion of BNN on a threshold for pesticide detections

In our opinion, there is no way (and probably never will be) that the complex idea and rules behind organic farming, processing and quality of products can be verified only by residue or any other analysis. Or as the European Court of Auditors puts it in its conclusion and recommendation of the “Audit of the control system governing the production, processing, distribution and imports of organic products” (p. 47): *“The control system for organic products as set out in the EU regulations aims at guaranteeing the production processes but not the organic character of the products themselves. This is because there is no scientific way to determine whether a product is organic or not.”* (http://www.eca.europa.eu/Lists/News/NEWS120626/NEWS120626_EN.PDF)

Therefore it is **impossible to define a level above which a product is not organic or below which it is**. On the contrary: a paradigm shift away from process-based controls which are founded on the organic principles bears the risk of more fraud cases. This opinion is based on our profound knowledge of pesticide analysis and fraud cases. We would very much like to share BNN’s great experience and give you some illustrating examples of investigations as a follow-up of pesticide detections in organic products (all these examples have occurred exactly in this way, see examples listed in chapter 3). Among the examples are some that show how investigations of the causes of pesticide detections lead to improvements in organic farming, transport, storage, processing and trade (see examples 3.2 and 3.3). But there still are many reasons for pesticide detections like environmental contamination beyond the influence of organic operators (see examples 3.1, 3.4 and 3.5).

As the introduction of pesticide residues is also reasoned with **consumer expectations** we would like to feedback also our compiled experience regarding consumer expectation on pesticides in organic products (see chapter 4). The experience stems from most of the BNN-members being retailers. They are dealing with consumers and their expectations every day. Moreover BNN has been active in communication on contamination in organic products to retailers and consumers for more than 10 years.

Pesticide analysis is one tool among others for fraud detection and prevention. Pesticide analysis could be used more efficiently in inspection and certification and for continuous improvement of organic agriculture, processing and trade. But to be a useful tool for verifying the process of organic agriculture, processing and trade, samples would have to be taken in a way that the results of their analysis can be interpreted in the context of the rules and principles of organic farming. Using the

experience of BNN and its members you can find some **suggestions on sampling and (pesticide) analysis as a useful tool in inspection and certification**, outlining why and how the Commission could aim at a better use for pesticide analysis for the verification of organic products (see chapter 5).

Derived from the above mentioned arguments, examples and experiences which are developed further in the next chapters, BNN concludes the following **suggestions and recommendations**:

- **Organic thresholds are counterproductive in matters of improvement of the overall credibility of organic products (overall conclusion).**
- **In order to better use the potential of analysis in inspection and certification control bodies and authorities should have procedures on how to take meaningful samples in place.**
- **Other instruments for fraud prevention should not be given up or not be developed further in favor of pesticide analysis. These are for example: cross checks, auditing of the accounts, electronic certificates, and check of the product flow.**
- **A new European Organic Action Plan should include measures to inform consumers about the quality of organic products – one aspect could be that organic farmers cannot protect themselves from unavoidable and involuntary contaminations (see chapter 3).**

3. Examples of investigations as a follow-up of pesticide detections in organic products

3.1. General environmental pollution with pesticides/biphenyl in fresh herbs and spices:

Since January 2009 there has been an increasing prevalence – at first occasional, later frequent – of laboratory results showing biphenyl in organic and conventional fresh herbs, spice herbs, herb teas and other infusions. There have been no indications that biphenyl could originate from an active ingredient not permitted in the positive list in appendix II of (EC) No. 889/2008. There is equally no proof that the regulations for organic agriculture have not been followed. Biphenyl is not used for conventional herbs either. The cause is allocated to the general environmental pollution with biphenyl related to natural (mineral oils and their products of combustion -> heating, therefore especially present in winter) and technical sources (colours, preservatives, petrochemical industry). Herbs tend to absorb pollutants from the air. Biphenyl findings are therefore no reason for the removal of labelling as organic. Without this way of researching the causes of pesticide findings, but relying on inflexible maximum residue limits instead, lots of producers of organic herbs would probably have given up. (http://n-bnn.de/sites/default/dateien/bilder/Downloads/PublicStatement_HerbsBiphenyl.pdf)

3.2 Cross contamination/chlorpropham on organic potatoes

An organic farmer produced potatoes according to the European organic farming legislation. He does not have enough harvest crates and borrows some wooden crates from his (conventional) neighbor. He cleans the crates with hot water and fills them with his organic potatoes. Unfortunately the sprout inhibitor chlorpropham is widely used on conventional potatoes. Moreover chlorpropham can enter into the pores of wood or concrete and emit again as airborne dust (so that cleaning is not sufficient to avoid residues). The clients analyses the potatoes and chlorpropham is detected. If an “organic maximum residue limit” had been in place and had been exceeded, the client would not have been allowed to sell the potatoes as organic. He would have paid the farmer only the price for conventional potatoes (if at all because a trader for organic products not necessarily has market access for conventional products) – although the farmer did act in compliance with the organic legislation. His products were contaminated by an accidental contamination.

3.3. Traces of substances for post-harvest treatment on organic citrus

In southern Spain most packing stations are owned by cooperatives whose members are organic and conventional farmers. A few years ago it was common practice to use the assembly lines and cleaning brushes after cleaning of the facilities first for organic citrus. Unfortunately it is impossible to remove all the substances of post-harvest treatment, especially from the cleaning brushes. This fact frequently led to traces of e.g. thiabendazol, imazalil or ortho-phenylphenol on organic orange or clementine. It was obvious that there was no application because compared to treated conventional citrus the levels were very low (about 100 times lower). By now, the installations for organic and conventional citrus are completely separated in almost 100% of the stations in order to avoid this problem (today occurring only very seldom). This is an example about how a careful case by case evaluation can lead to improvements of organic quality.

3.4 Drift over wide distances: Endosulfan in (Brazilian) soy beans

In the case of the Brazilian soya harvest in 2010, independent expert have shown that the difficult climatic conditions and a high endosulfan usage in conventional agriculture led to contamination of organic Soya from both rain, air (evaporation) and water pollution which was above the BNN orientation value. It was statistically proven that fences to avoid spray drift had NO impact on the contamination. (http://www.n-bnn.de/sites/default/dateien/bilder/Downloads/PublicStatement_Soybeans_August2011.pdf) Fortunately the use of Endosulfan was in the meantime prohibited in Brazil so that this particular problem will not reoccur (in Brazil).

3.5 Hexachlorobenzene (HCB) in organic pumpkin seeds (historical contamination)

Due to historical contamination unavoidable levels of HCB (HCB was used in conventional cereal crops until the 1980's as a seed treatment against fungal infections and is very persistent) can occur in soils. The pumpkin, from which the corresponding pumpkin seeds and the pumpkin seed oil are processed, has the special property of absorbing HCB and other lipophilic chemical substances from the soil and storing them in the fats contained in the seeds. Sources other than ubiquitous environmental background contamination of the soil can be considered negligible for the HCB contamination of organic oilseed pumpkins. (http://www.n-bnn.de/sites/default/dateien/bilder/Downloads/PublicStatement_pumpkinseeds_HCB_September2013.pdf)

➔ **To sum up the above mentioned examples (and yet many more) thresholds will hinder farmers to convert from conventional to organic agriculture, because the (financial) risk is high. And it might push organic farmers to reconvert to conventional agriculture – or it might just bankrupt them.**

3.6 Application of herbicides

A few years ago there was a fraud case involving the use of pre-emergence herbicides on organic carrots in Italy. The carrots were usually pesticide free or contained very small traces < 0,01 mg/kg. This kind of fraud can only be (analytically) detected by leaf samples or even better through inspection of the fields. Certifiers would find very "clean" fields and probably brown parts on weeds (and perhaps carrot leaves).

➔ **These examples show that even for a fraud case involving the use of prohibited substances analysis (and especially end product analysis) does not necessarily lead to a detection. .**

Finally, it should not be forgotten that operators (importers, traders of raw material, processors) already have put systems in place that ensure regular pesticide analyses of the products they trade or process. If they have to fear automatic decertification with all positive results they will (have to) stop pesticide analysis for economic reasons or stop transmitting the results to the certification bodies. **Therefore a decertification level could even lead to fewer analyses and less security that pesticides in organic products are detected and measures to eliminate the problems are taken.** The vast majority of the analyses is done by the operators and not by the certification bodies or control authorities.

4. Consumer expectation

The proponents of an organic decertification level argue that consumers expect organic products to be free of any residues, but if you asked them: Do you expect Organic Products to contain as little pesticides as possible? They would answer “yes” as well. And that is exactly what we should promise: We do everything to achieve pesticide-free products, but as long as we live in a world that is dominated by conventional agriculture and pesticides can even be detected in the arctic ice cap, we cannot guarantee 100% residue free. That is what we should communicate to the consumer even if it has to be explained. BNN’s experience is that a large proportion of retailers and consumers understand directly that 100% residue free is not achievable without punishing innocent farmers. Even if a client initially has a different opinion it is possible to convince them that there are very good reasons for the process approach of organic agriculture, processing and trade and their inspection and certification. A well informed consumer is rather shocked that pesticides are omnipresent in the world we live in.

➔ **A new European Organic Action Plan should include measures to inform consumers about the quality of organic products – one aspect could be that organic farmers cannot protect themselves from unavoidable and involuntary contaminations, so that in some cases small amounts of pesticides have to be accepted also in organic products.**

In the Public Consultation by the European Commission the first reason for consuming organic products was “I’m concerned about the environment” with 83% of the answers. Carefully interpreted this means the consumers see one main advantage of organic production is the non-use of chemicals that contaminate the environment and food. Whether or not thresholds or other measures are the right instruments to achieve this, is a technical question most consumers cannot judge as they largely are not sufficiently informed about the technical aspects of organic farming and the organic control system, as also shown in the above mentioned consultation.

Moreover the pesticide levels in organic products meet the consumer expectation of containing less pesticide: for example in organic fruit the levels are 500 times lower than in conventional fruit (<http://oekomonitoring.cvuas.de/berichte.html>).

5. Sampling and (pesticide) analysis as a useful tool in inspection and certification

Taking samples and interpreting the results of analyses is one tool among a broad range of methods used to verify compliance with the rules for organic production; it has been reinforced by the requirement to take a minimum number of samples as of 1 January 2014. In order to better use the potential of analysis in inspection and certification the **Commission should ensure that control bodies and authorities have in place procedures on how to take meaningful samples.** These

procedures would be much more helpful to improve the integrity of the organic market than the introduction of any decertification level for organic products. As a consequence consumer confidence would be strengthened as well.

Sampling and interpretation of analysis results for the verification of the process and principles of organic farming, processing and trade have very different aims to the verification of mere marketability following general food law e.g. MRLs for pesticides.

Therefore the sampling in organic inspection and certification has to be guided by the assumed risk(s) and/or the inspected processes. The aim is explicitly not to gain information on the average quality of a product or lot (as it is the case when verifying the marketability of a lot).

Example

Commingling 80% of organic apples with 20 % conventional apples would normally reduce the pesticide findings (if any) to a level < 0,01 mg/kg on average. Therefore representative sampling is not appropriate to detect this kind of fraud.

Sampling and analysis in process control have to be thoroughly planned and used systematically. Moreover CB staff needs experience and/or training in this field. CBs should prefer to test leaf and soil samples, raw materials and semi-finished rather than end products. Swipe samples of equipment and material are also a useful tool, for example swipe samples of the field sprayer. In the following textbox a few selected aspects of sampling are outlined exemplarily in order to give an idea of the complexity of the topic. Another important aspect is the scope of the analysis.

Sampling for verification of compliance with the provisions of organic agriculture

Analysis is a very good tool to verify the process of organic agriculture, processing and trade. BUT: Before taking a sample it is crucial to ask what questions you want to answer. Exemplarily, there are a few selected aspects outlined below .

What parameters are tested? Testing for pesticides, non-allowed food additives or GMO?

The parameters have a strong impact on sampling, f.e. for GMO analysis the sample size has to be much bigger than for pesticide analysis.

Do you want to find out if the provisions of organic agriculture are met?

➔ In this case the question has to be limited further to a more specific problem, usually based on the highest assumed risk of the kind of violation of organic regulation. Following you find some of the assumed risks together with the appropriate sampling.

Assumed risk 1: Application of pesticides which are not listed in Annex II of the Organic Regulation?

On the field or in the green houses: leaf and soil samples are generally more adequate, because even if forbidden pesticides were used, they may have degraded until harvest or maybe undetectable on the crop. But the following question has to be answered individually for each crop and geographical origin: The application of what type of substances at what time of the growing period has a great (economic) advantage?

Assumed risk 2: Commingling with conventional products?

Usually it is more suitable to check the whole product flow from the farmer(s) to the packaging station and compare the quantities (accountability). Moreover the quantities of the products have to be realistic. The criminal minds behind the big fraud cases were usually as smart as to test the products before selling them as organic (see e.g. Italian fraud case with cereals „Puss in boots“).

Assumed risk 3: Contamination with non-authorized substances?

Parallel processing has the highest risk of contamination so that the separation has to be checked. Additional verification by analysis makes sense (see also Chapter 1.3).

→ In the great majority of the cases, end product samples do not provide evidence on what type of irregularity or infringement has taken place or if there is any non-compliance at all! It is impossible to answer all questions with the same sample.