GLOBAL 2000

# PESTICIDE REDUCTION PROGRAM

## Manual & Procedure for Suppliers & Producers

REWE GROUP

June 2025

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# List of abbreviations

| | |
|---|---|
| ADI | Acceptable Daily Intake |
| ARfD | Acute Reference Dose |
| CM/EK | Category Management/Buyer |
| EFSA | European Food Safety Authority |
| EDCs | Endocrine Disrupting Chemical(s) |
| GGN | GlobalGap Number |
| BW | Body-weight |
| MRL | Maximum Residue Level |
| NWGR | Limit of detection (LOD) |
| UL | Upper limit |
| PRP | Pesticide Reduction Program |
| QS | Quality Assurance |
| SOE | Sum of Exposure -(„Cocktail Effect“) |
| SchäHöV | Schädlingsbekämpfungsmittel-Höchstwerteverordnung |

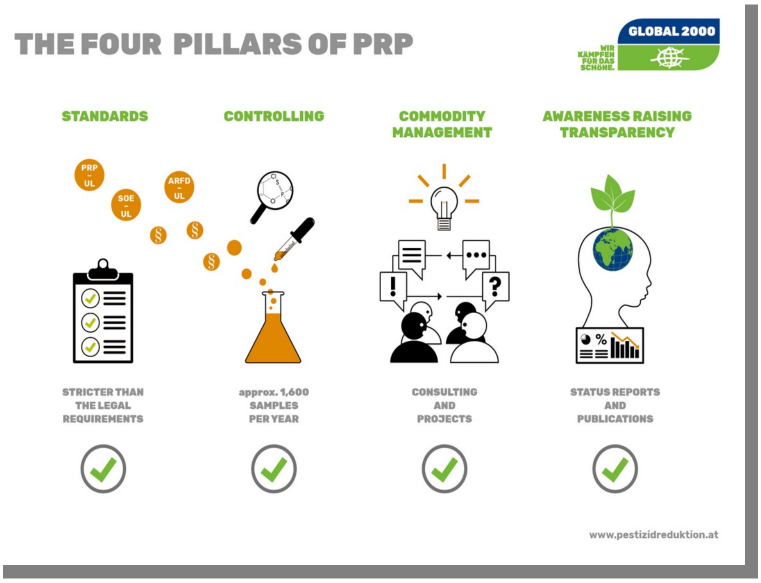
# 1 INTRODUCTION

Fruit and vegetables should not only appear attractive and have a long shelf life, they should also be available all year round. To ensure that, conventional agriculture rely on mineral fertilizers and pesticides that endanger the health of people working in agriculture, pollute habitats, threaten biodiversity and contaminate our food.

In 2002, GLOBAL 2000 developed the Pesticide Reduction Program (PRP) to reduce pesticide residue on fresh fruit and vegetables. The progam has been implemented since 2003 by BILLA and since 2006 also by BILLA PLUS and PENNY, three supermarkets of REWE International AG.

The PRP is based on four pillars:

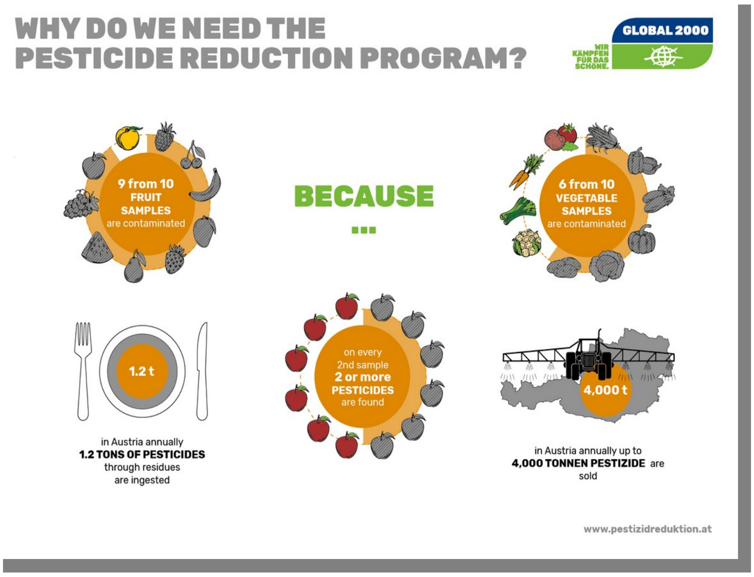
1) development of binding standards, 2) cooperation with producers and suppliers, 3) regular controls and 4) awareness-raising.




## Aim

Through the Pesticide Reduction Program of GLOBAL 2000 only fruit and vegetables with no long-term health risks to consumers should be included in REWE's large range of products. This clearly sets REWE apart from other food retailers. Compliance with the PRP criteria is mandatory for REWE suppliers.

The aims of the program are to increase consumer safety by reducing the residue load of fresh fruit and vegetables and to protect the environment by reducing the use of pesticides in production.



# 2 CONTROL

Weekly, targeted and risk-oriented checks are carried out to verify compliance with the required residue levels in REWE's entire range of fresh fruit and vegetables (Figure 1).

Communication and cooperation with suppliers and producers are key component of the program. The results of the pesticide analyses are discussed with the suppliers and options for reducing the residue load and the use of pesticides are discussed and developed together.

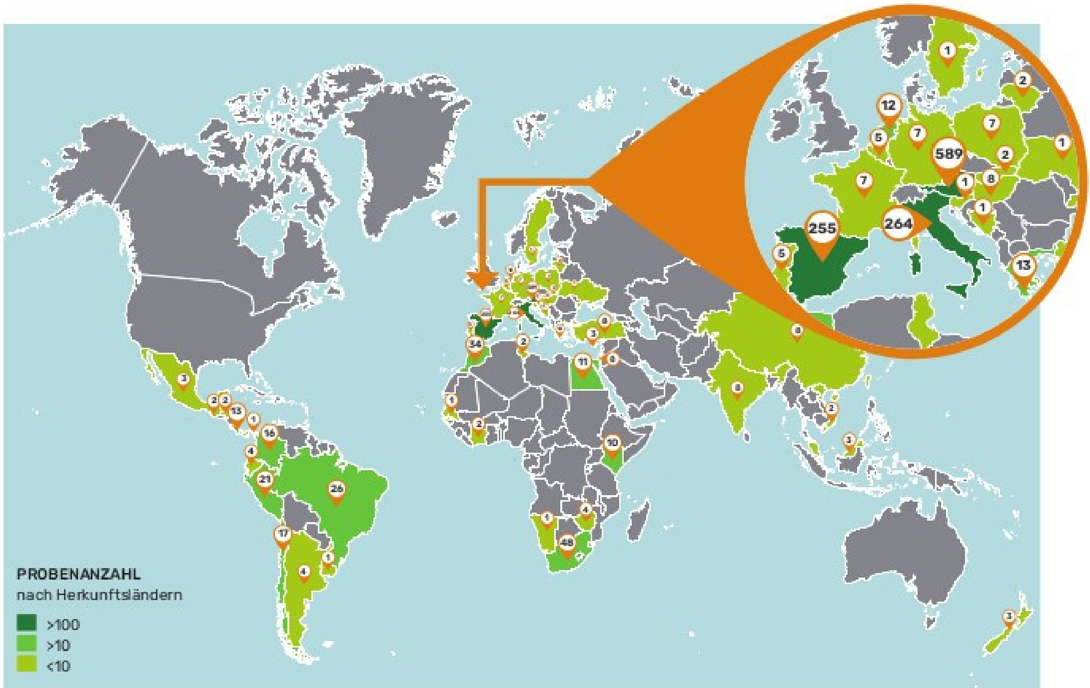



**Figure 1: Origin of samples in 2022. Number of samples, see legend**
(Source: Statusbericht Chemischer Pflanzenschutz 2023: Obst und Gemüse. *Durstberger, 2023*)

# 3 STANDARDS

## 3.1 Evaluation

Following criteria are evaluated with the results od the analysis:

- Maximum residue levels according to Regulation (EC) Nr. 396/2005 (legal marketability)
- Acute Reference dose (ARfD) according to EFSA PRIMo 3.1
- Prohibited active substances according to the Stockholm Convention. If a residue over 0.01 mg/kg is detected, the product will be rejected out of due diligence.
- Internal PRP specifications (PRP upper limits and total load = Sum of Exposure)

After evaluations of the samples, reports are sent to the suppliers. In the event of a non-compliance, the measures deriving from that event must be implemented either at producer, producer group or supplier level, depending on the traceability of the sample.

## 3.2 Standard procedure (classic products)

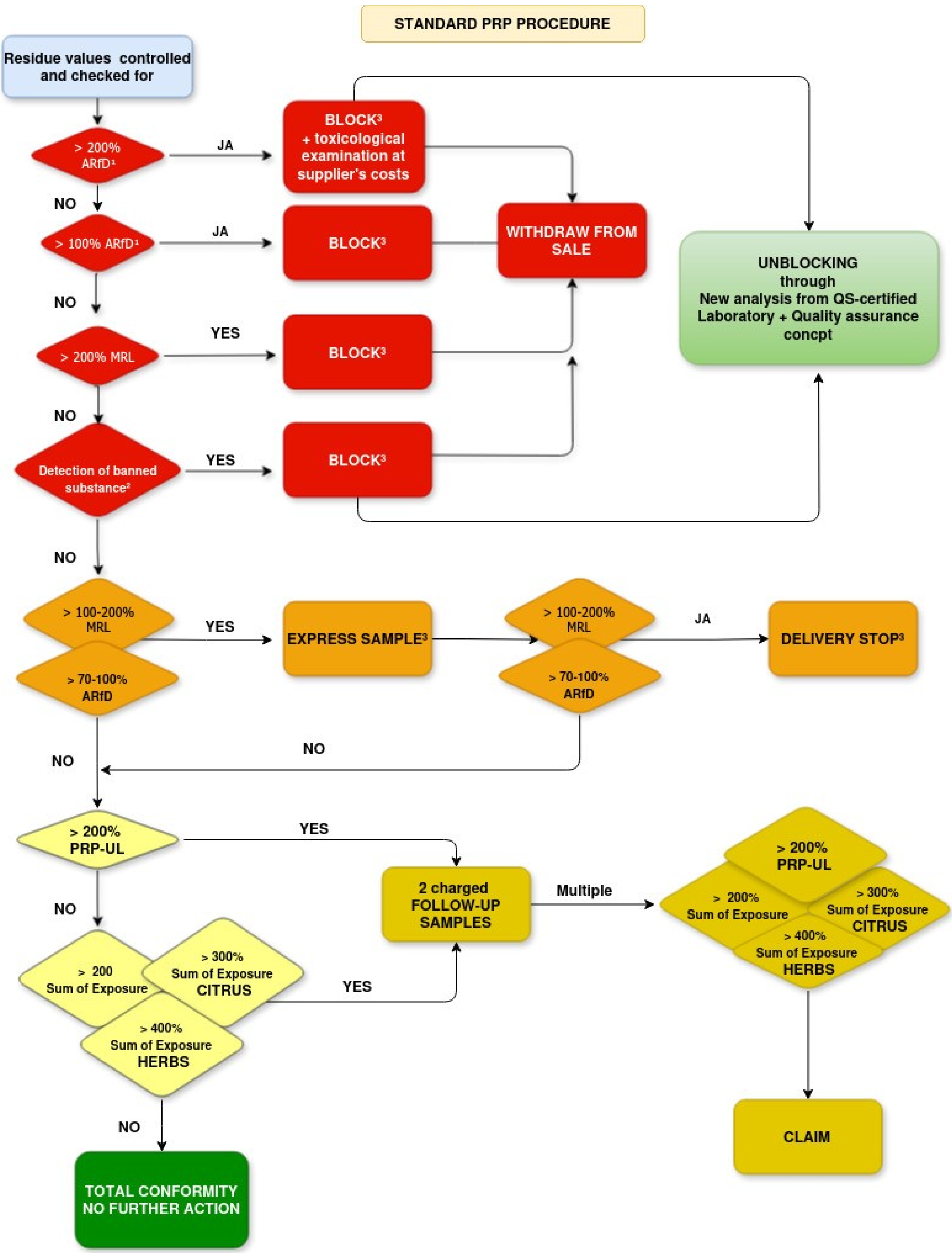
The procedure for assessing a sample is shown in Figure 2. It is applied at the lowest level recognizable (label) at the time of sampling (available entity: producer, group of producers, supplier) .

- ◆ Any exceedance in the red area leads to a block (exceedance of the maximum residue level or the acute reference dose)

  **Once a block is issued by Quality Management, a recall process is initiated by the Risk Management team of Rewe International AG (RIAG). The Quality Management, CM/EK, supplier and Risk Management all check whether there are still any products from the affected batch in circulation. If so, a silent or public recall is carefully examined.**

- ◆ Any exceedance in the orange area is backed up by an express sample, which is then invoiced to the supplier. If the result is confirmed, a block is issued and the recall process is started as mentioned above.

- ◆ Any exceedance in the yellow area leads to follow-up samples, which are then invoiced to the supplier, as well as to an intensification of the product review. In the event of multiple violations, RIAG QM will take appropriate measures, including stopping deliveries.




¹According to PRIMo 3.1 Modell (EFSA)

²According to Stockholm's Convention

³applied at the lowest level recognizable at the time of sampling (label) (available unit: producer, group, supplier)

Figure 2: Standard PRP procedure

## 3.3 „BILLA immer gut“

### 3.3.1 The concept

BILLA immer gut is one of RIAG's own brands. The aim of BILLA immer gut is to provide customers with sustainable added value. By checking the certifications and analysis results of all producers before the first delivery as well as audits, it aims to guarantee a consistent level of quality. Amended procedures apply to fresh BILLA immer gut fruit and vegetables (classic products and herbs) (Figures 3 & 4).

### 3.3.2 Procedure for BILLA immer gut

#### 3.3.2.1 General

**Before delivery:**

The following requirements must be met before delivery:

- Availability of a signed REWE products specification (supplier and, if applicable, manufacturer and quality management BILLA AG).
- Social standards: a successful audit or certificate of an acknowledged social standard must be available. The most relevant standards are: FAIRTRADE, GRASP, Rainforest Alliance, SMETA, SIZA.
- Layout and labeling: the approval of the labels and design of a brand-compliant layout is carried out with the involvement of BILLA Brand Management, BILLA Product Management, BILLA Quality Management and the supplier.
- Packaging material: initial and subsequent orders of packaging may only be placed after approval by product management.
- PRP and legal requirements: For the clearance of the homogeneous unit, a sample is sent by the supplier/producer to an accredited laboratory. The result must not be older than 5 days for the approval. The approval refers to the homogeneous unit and is valid for the respective harvest period or until there is a fundamental change, e.g. use of an active ingredient. The test results are provided via the HDE database (www.fruitmonitoring.com). The result must fulfill all specifications in order to be approved for delivery:
    - less than 100% of the MRL (25% for herbs - see 3.3.2.2)
    - less than 70% of the ARfD
    - less than 200% PRP active ingredient exhaustion (not relevant for herbs)
    - less than 200% total load (300% for citrus, 400% for herbs)

Preliminary analyses must come from an accredited laboratory and fulfill the following requirements:

- GGN of the producer is stated in the test report
- Pictures of the product are included in the test report
- The result is not older than 5 days
- Upload to the HDE database (www.fruitmonitoring.com) by the laboratory
- In addition to the multi-method, additional analyses must be ordered for some product groups. The PRP team must be asked which analyses are required
- For products with inedible peel (EU codes 0163000 & 0233000), an additional analysis of the edible portion is necessary if ARfD is exhausted at >70%.

**After delivery**

Regular sampling is carried out in REWE warehouses. If a specification deviation is detected, the producer concerned is blocked.

- Blocking + review if Recall: > 200% MRL, > 100% ARfD
- Blocking: > 200% PRP active substance upper limit and/or > 200% or > 300% (citrus) total load
- Express sample: > 100-200% MRL, > 70-100% ARfD – block upon confirmation

**The release is carried out as soon as all measures defined in the blocking e-mail have been fulfilled.**

**Audits**

If required, audits are carried out directly at production facilities.

**Performance meeting**

The overall performance (results & audit report) is discussed in the annual meeting between RIAG QM, suppliers and, if required, GLOBAL 2000.

#### 3.3.2.2 Fresh herbs

The general procedure for BILLA immer gut (see section 3.3.2.1) applies to BILLA immer gut herbs with the following deviations:

- less than 25% of the MRL
- less than 70% of the ARfD
- less than 400% total load (Figure 4)

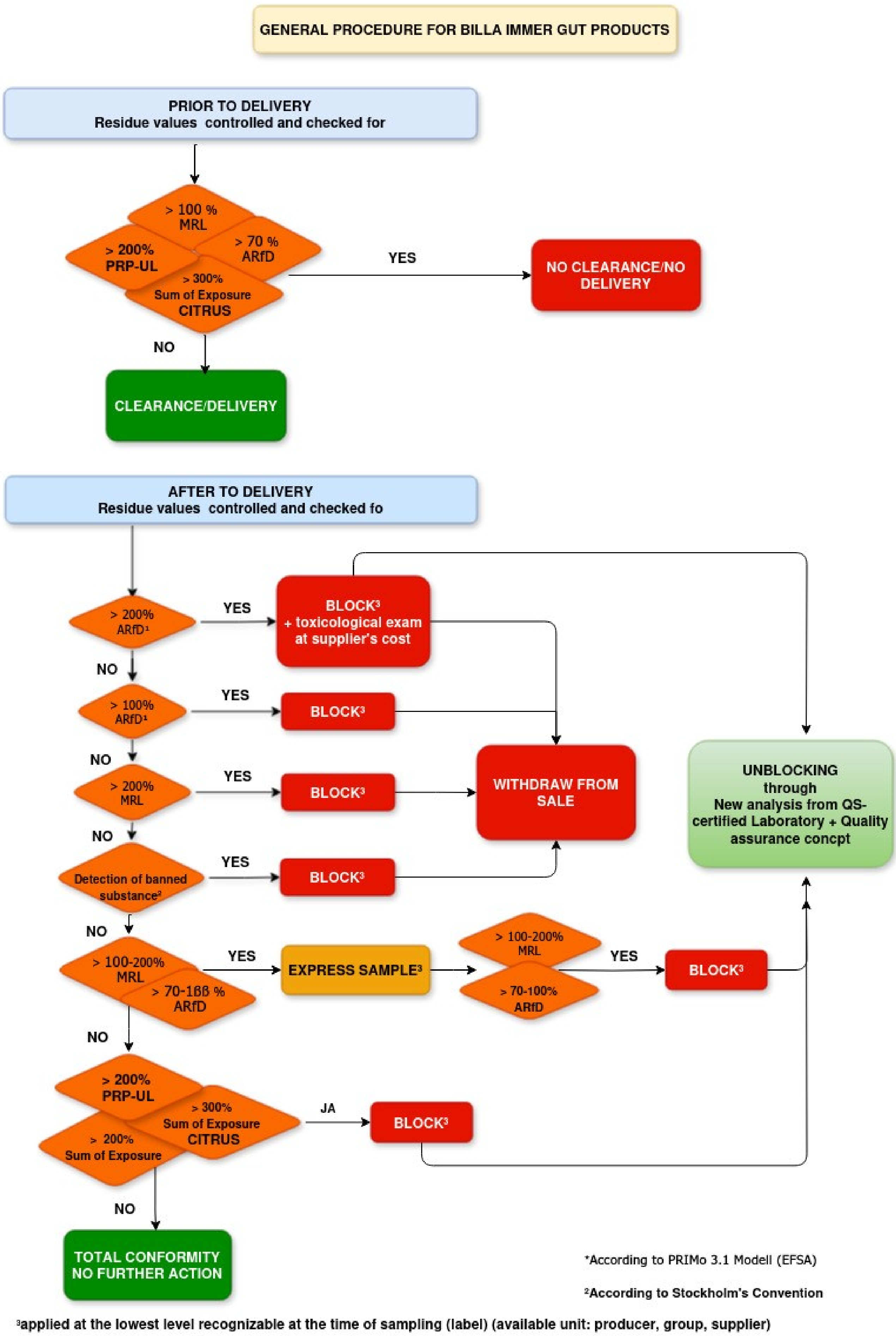
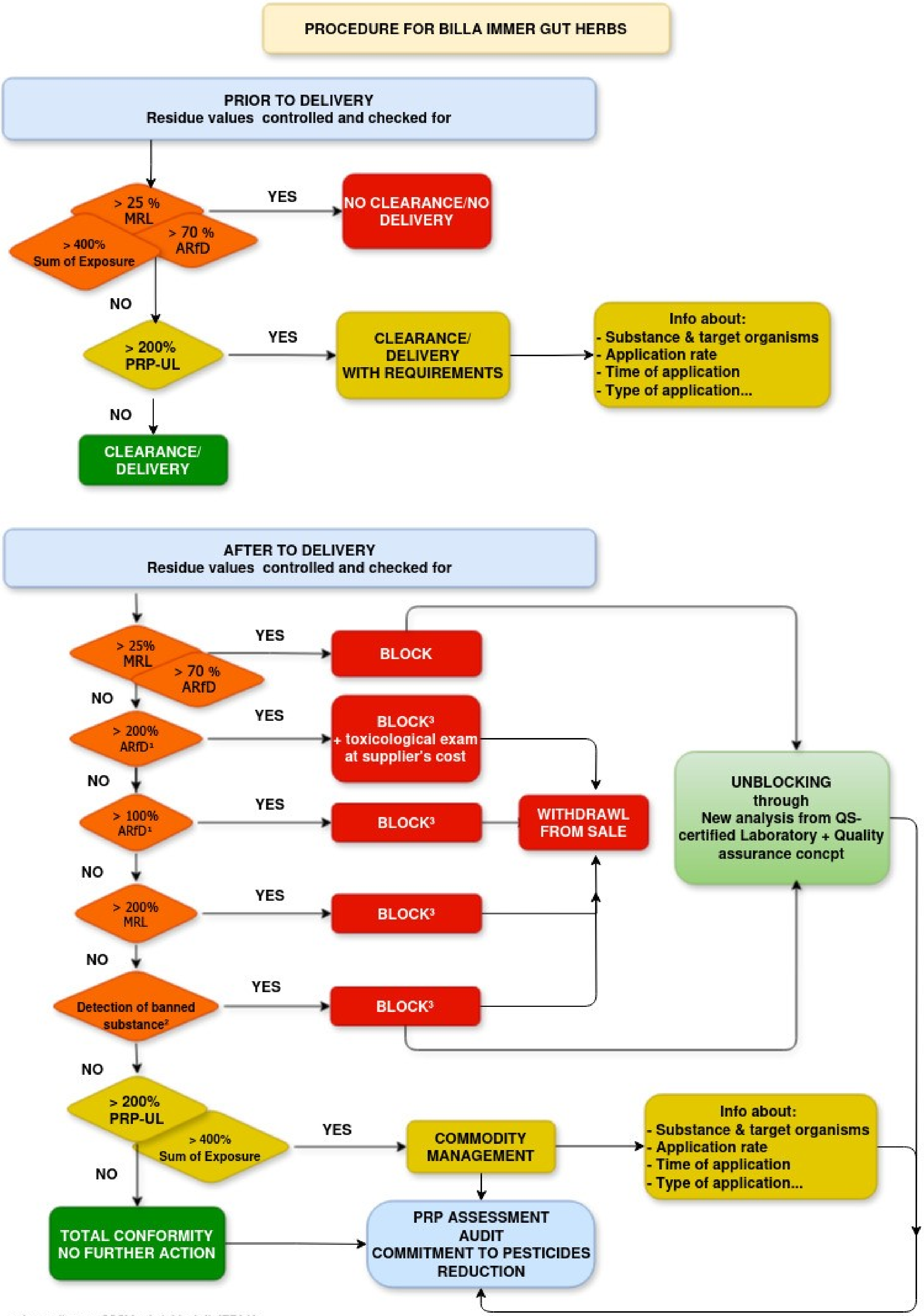



Figure 3: General PRP procedure for BILLA immer gut products




[1]According to PRIMo 3.1 Modell (EFSA)

[2]According to Stockholm's Convention

[3]applied at the lowest level recognizable at the time of sampling (label) (available unit: producer, group, supplier)

Figure 4: Procedure for BILLA immer gut fresh herbs

## 3.4 Exceedance and blocks

In the event that several evaluation criteria are not met in one sample, the strictest criterion is applied for the procedure (whereby the following applies: ARfD before MRL before PRP/SOE). **The GGNs blocked for the product can be found in the REWE SUPPLIER PORTAL. Suppliers are responsible for ensuring that no producers from this list are selected.**

### 3.4.1 Follow-up samples and express analyses

For follow-up samples, the lowest level recognizable at the time of sampling on the label is selected (available entity: producer, group of producer, supplier). The same GGN, AMAGAP number. producer or group of producers which produced the exceedance is sought. If not possible, the next available and different GGN, AMAGAP number, producer or group of producers for the given product is sampled. The costs of the follow-up samples or express sample will be invoiced to the supplier in question.

### 3.4.2 Lifting of blocks

The block is lifted when all measures listed in the blocking email have been fulfilled. The impacted product is then subjected to increased sampling and communication with the supplier is intensified to mitigate risk.

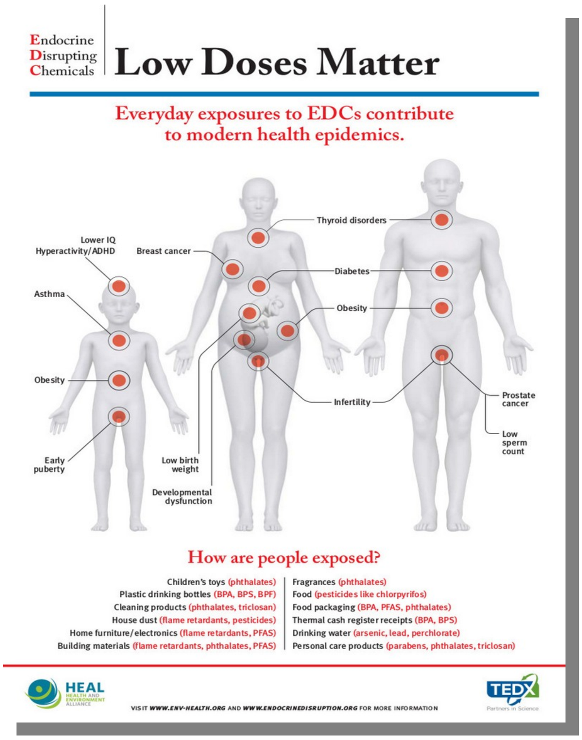
## 3.5 Communication and cooperation

Suppliers are informed about current sampling through the accompanying form. The also receive the results of the analysis via reports, In addition suppliers receive an annual overview of the residue load of all their sampled products in the form of an overall statistics. If required, suppliers may receive a detailed analysis of individual product groups

## 3.6 Minimization of EDCs – hormonally active pesticides

Even the smallest doses of hormonally active pesticide substances can have an impact on the hormone balance of humans and animals. Thus, we started to raise awareness to this issue in 2015 and the **EDC step-by-step reduction plan** came into force (Figure 5). One year later, the PRP upper limits of all EDC active substances recorded in the PRP database were halved. Since January 2020, as a further step in **EDC minimization**, the upper limits for the top 10 EDCs active substances have been further reduced in some cases (Table 3). The introduction of this stage also induce the minimization dialogue in the event of exceedance by these active substances. Instead of follow-up samples, field records are requested in order to analyze the degradation behavior of the problematic active substances and to explore possibilities of reducing their residues.

As subsequent step, the PRP upper limits of 15 additional EDCs were lowered from 1st January 2022. There are several studies available on each of these active substances confirming their hormonal activity. In addition, they are either classified by the EU as Candidates for Substitution (CfS) or are no longer authorized in the EU. The PRP upper limits of Top 10 EDCs that are no longer authorized in EU will be further reduced. Currently, 14 of the 25 active substances (10 Top 10 EDCs + 15 additional) are no longer authorized in the EU. There are different approaches depending on the active substance:




1. In order to reduce residues of active substances no longer authorized in the EU on imported commodities from third countries, a PRP upper limit of 0. 01 mg/kg applies to all active substances marked in red in Table 3. For metconazole, metribuzin and oxamyl whose EU authorizations are about to expire and for which renewals are not expected, a PRP upper limit of 0,01 mg/kg is also applicable.

2. In the case of the active substances tebuconazole, propyzamide, prochloraz and myclobutanil, we determined he new PRP upper limits based on a minimization concept in similar process as for the Top 10 EDCs.

3. The dialogue on minimization will continue for the active substances whose new PRP upper limits are higher than 0. 01 mg/kg. This means that in case the PRP limit is exceeded > 200%, we will waive the follow-up samples if information on the pesticide application (reason, application date (s), formulation, dosage) as well as the date of sowing/planting and harvest of the product in question are provided. In this regard the supplier will receive an Excel spreadsheet from us to fill in.

Furthermore, the PRP analysis results are evaluated annually with regard to the contamination with EDCs and further steps are planned on the basis of this evaluation. **Stage 4 came into force on January 1, 2024,** with the aim of further reducing residues of those 10 active ingredients whose PRP upper limit has not yet been lowered to 0.01 mg/kg at the level of individual products. We have selected 4 products for which we want to achieve this goal over the next two years through intensive product work. These are **oranges, cucumbers, strawberries and sugar snap peas.**

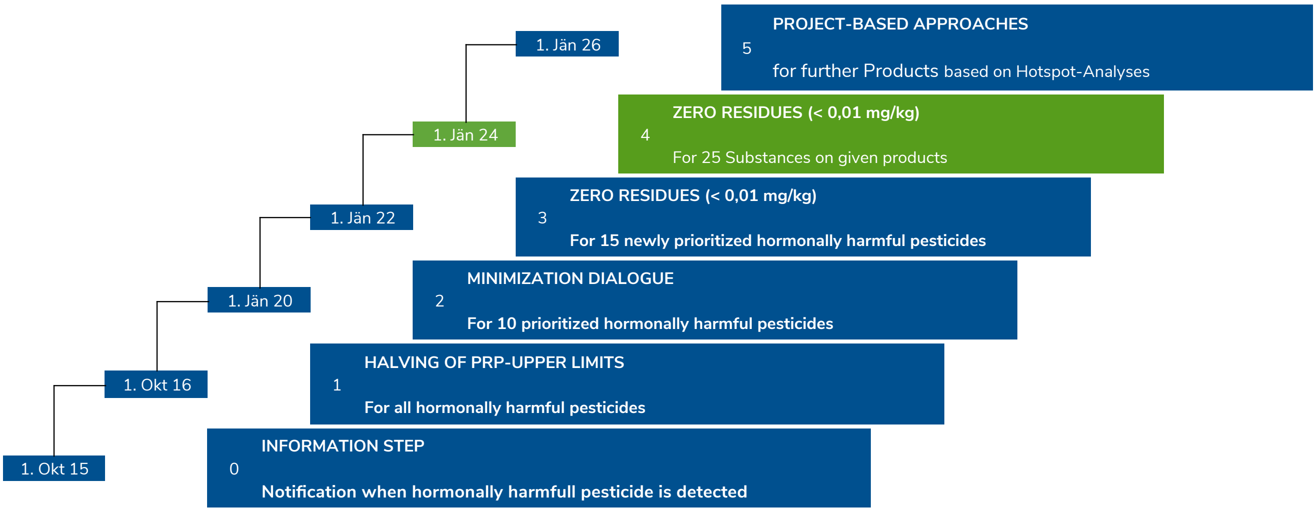



**Figure 5: EDC Step-by-step reduction plan**

## Table 1: PRP-upper limits of selected EDC-substances (Top 25)

| | Substance | EU-Status¹ | PRP-upper limit | |
|---|---|---|---|---|
| | | | from Jan 2020 | from Jan 2025 |
| Top 10 EDCs – reduced upper limit from 1st January 2020 | **Captan** | 31/10/2039 | 0,09 | 0,09 |
| | **Chlorpyrifos** | not approved | 0,0135 | 0,01 |
| | **Cypermethrin*** | 31/01/2029 | 0,03 | 0,03 |
| | **Deltamethrin** | 15/08/2026 | 0,02 | 0,02 |
| | **Dimethoat*** | not approved | 0,00675 | 0,01 |
| | **Iprodion** | not approved | 0,09 | 0,01 |
| | **L-Cyhalothrin*** | 31/08/2026 | 0,02 | 0,02 |
| | **DTC / Mancozeb** | not approved | 0,05 | 0,05 |
| | **Penconazol** | 15/10/2026 | 0,02 | 0,02 |
| | **Thiacloprid*** | not approved | 0,03 | 0,01 |

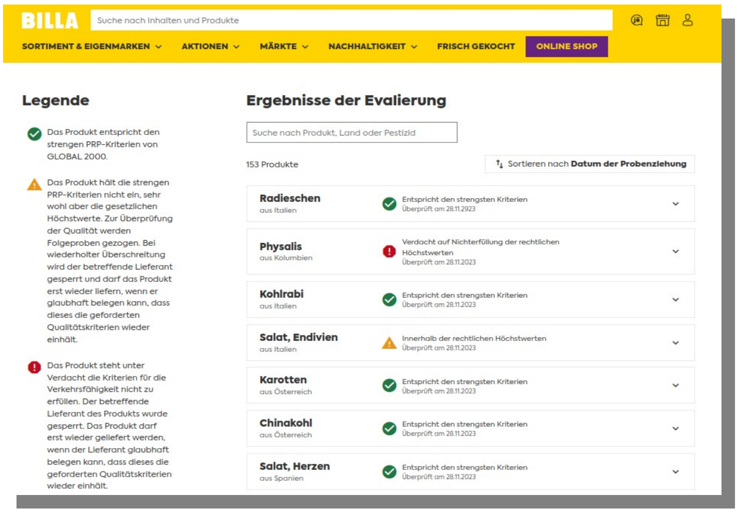
¹The current approval status is available at https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/active-s

| | Substance | EU-Status | PRP-upper limit | |
|---|---|---|---|---|
| | | | From Jan 2020 | from Jan 2025 |
| New substances from 1 st January 2022 | **Tebuconazol*** | 15/08/2026 | 0,203 | 0,122 |
| | **Propyzamid*** | 30/06/2025 | 0,135 | 0,082 |
| | **Prochloraz*** | not approved | 0,068 | 0,03¹ |
| | **Linuron*** | not approved | 0,02 | 0,01 |
| | **Carbendazim*** | not approved | 0,135 | 0,01 |
| | **Myclobutanil*** | not approved | 0,169 | 0,071 |
| | **Bifenthrin*** | not approved | 0,101 | 0,01 |
| | **Epoxiconazol*** | not approved | 0,054 | 0,01 |
| | **Metconazole*** | 31/08/2031 | 0,068 | 0,01 |
| | **Metribuzin*** | not approved | 0,088 | 0,01 |
| | **Oxamyl*** | not approved | 0,007 | 0,01 |
| | **Methomyl*** | not approved | 0,017 | 0,01 |
| | **Propiconazol*** | not approved | 0,27 | 0,01 |
| | **Cyproconazol*** | not approved | 0,135 | 0,01 |
| | **Fipronil*** | not approved | 0,001 | 0,01 |

*Candidate for Substitution ¹LOD

# 4 AWARENESS RAISING AND TRANSPARENCY

Raising awareness and educating consumers should enable them to make well-informed purchasing decisions. For this reason, BILLA is the only supermarket chain in the world to regularly publish all pesticide results on its website. A simple traffic light system shows whether a product has had to be banned or is under observation due to exceedances https://www.BILLA.at/prp-tool




Once a year, all analysis results of the REWE tests are also statistically evaluated and presented in detail in the “Status Report on Chemical Plant Protection”.
https://www.global2000.at/publikationen/statusbericht-chemischer-pflanzenschutz

# 5 CONTACTS AND INFO

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# 6 APPENDIX

## 6.1 ADI (Acceptable Daily Intake)

The ADI is an estimated value applied in health assessments of long-term exposure to an active substance in food. It is defined as the amount of a substance in relation to body weight that can be ingested daily during lifetime without any measurable health hazards. The ADI value is expressed in milligram per kilogram body weight (mg/kg BW).

### 6.1.1 PRP-upper limits (PRP-UL)

PRP-upper limits are the maximum acceptable pesticide residue levels defined by GLOBAL 2000. The calculation of PRP-upper limits and sum of exposure bases on the current ADI-value of each active substance (Chapter 2.3.1). The ADI-values of the different active substances used for the calculation can be found in the EU pesticide database http://ec.europa.eu/sanco_pesticides/public/index.cfm („*Active substances*").

The compliance with the PRP-upper limits should theoretically warrant the harmless daily consumption of 1 kg fresh fruit and/or vegetables by a child of 13,5 kg body-weight[1]. This body-weight is representative for risk groups including children, pregnant women, elderly and sick people.

The PRP-upper limit is calculated as follows:

$$\mathrm{PRP-UL} = \frac{\mathrm{ADI}\,[\mathrm{mg/kg}] \times 13.5\,[\mathrm{kg}]}{1\,[\mathrm{kg}]}$$

The exhaustion of the PRP-upper limit by the detected residue is expressed in percentage of the upper limit (% PRP-UL).

### 6.1.2 Sum of Eposure (SOE)

Products are often exposed to more than one pesticide. The harmful potential effect of a single active substance might increase in such cases („cocktail effect" or „mixed toxicity"). There are currently no studies allowing a standardized evaluation of the cocktail effect. Thus, GLOBAL 2000 limits this evaluation by adding individual exposures into a total called Sum Of Exposure (SOE). The SOE is also expressed in percentage.

[11]The ADI always relies on current scientific knowledge. So far unknown effects are therefore disregarded. Thus, compliance with PRP-upper limits does not exclude any health implications.

**Table 2: Illustration of the evaluation of the Sum Of Exposure (SOE)**

| Sum of Exposure | Exposure level | Meaning |
|---|---|---|
| **SOE** < NWGR | Level 0 | Below limit of quantification |
| **SOE** NWGR - 100% | Level 1 | Exposure |
| **SOE** 101 - 200% | Level 2 | High exposure |
| **SOE** > 200% | Level 3 | Exceedance |

## 6.2 Acute Reference Dose (ARfD)

The ARfD is the estimated amount of a substance that can be ingested in the course of a day or during a single meal, without appreciable health concern to the consumer.

If the ARfD of an active substance is exceeded, even the consumption of a "normal" portion of fruits or vegetables may lead to health hazards. The product concerned is considered unsafe and shall not be marketed. The Austrian law on food security and consumer protection (LMSVG, BGBl No.13/2006) forbids to place on the market foods which are, for example, harmful to health i.e. unsafe according to Art. 14 of Regulation (EC) No 178/2002.

The risk assessment for the acute health hazard is based on the ARfD value expressed in kilogram of body weight; it takes also into account the amount ingested and the size of the respective product. The European Food Safety Authority (EFSA) provides the calculation model for the health assessment of short-term exposure to pesticide residues:

https://www.efsa.europa.eu/de/applications/pesticides/tools). The current calculation model is PRIMo 3.1. The exhaustion of the ARfD upper limit by the detected residue amount is expressed as percentage (% ARfD-upper limit). The ARfD values of respective active substances required for the calculation can be found in the EU pesticide database at http://ec.europa.eu/sanco_pesticides/public/index.cfm ("Active substances").

## 6.3 MRLs (Maximum Residue Levels): EU regulation

Maximum Residue Levels regulate the tolerated residue concentration for each active substance and differ from one product to the other. Besides toxicological effects on humans and animals the establishment of MRLs also takes into account the agricultural relevance of an active substance to a crop production. The establishment of MRLs does not take into account far enough the higher sensitivity of children exposed to residues of chemically synthesized pesticides.

On 1st September 2008 the Regulation (EC) No. 396/2005 of the European Parliament and European Council and its amendment (EC) No. 839/2008 of the European Commission on pesticide MRLs came into force. Since then all member States of the European Union have applied harmonized MRLs.
Maximum Residue Levels are defined by the European parliament and Council in the regu-

lations EG Nr. 396/2005 and its annexes and amendments. The current EU-wide applicable MRLs for each active substance and product are provided in the EU pesticide residue database http://ec.europa.eu/sanco_pesticides/public/index.cfm.

The Austrian plant protection regulation (SchäHöV) still applies for active substances not listed in the afore-mentioned EU regulation . For substances without determined upper limits in both „SchäHöV“ and EU regulation applies the MRL of 0,01 mg/kg (=LOD).

The exhaustion of the MRL value by the detected residue is expressed in percentage (% MRL).

## 6.4 Analysis

The samples are analysed in independent, QS-certified laboratories. There, they are assigned an internal code and photographed. Parts of the homogenates are retained during sample preparation. In the event of an exceedance, the analysis is repeated using a stored homogenate. Only if the mean value of the two analyses exceeds the upper limit the result is considered to be an exceedance. At the request of the supplier, a part of the homogenate may be used for a possible follow-up examination in a different laboratory. The sample is then transported on dry ice and the result has to be reported to the PRP-Team.