Inventory of PPP distribution and accumulation in EPAH, including gender differences

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Acronyms

AM	Arithmetic Mean
CH	Switzerland
CSS	Case study site
CZ	Czech Republic
DK	Denmark
EFSA	European Food Safety Authority
EPAH	Ecosystem, Plant, Animal and Human
FAO	Food and Agriculture Organization of the United Nations
FR	France
HCB	Hexachlorobenzene
HR	Croatia
IT	Italy
LOD	Limit of Detection
LOQ	Limit of Quantification
NMP	National Monitoring Program
MRL	Maximum Residue level
MU	Masaryk University, Czech Republic
NL	Netherlands
P5	5th percentile
P95	95th percentile
PPP	Plant Protection Products
PT	Portugal
SKU	Centrale Ontvangst Goederen Radboudumc, Netherlands
SL	Slovenia
SP	Spain
STDDEV	Standard Deviation
WP	Work Package
WR	Wageningen Food Safety Research
WU	Wageningen University

1. Introduction

This deliverable is part of WP2 entitled “PPPs’ distribution and health status”. Still, knowledge about the distribution of PPPs across different environments, plants, animals, and humans (EPAH) is limited. The aim of the D2.3 deliverable is to provide an overview on the Plant Protection Product (PPP) concentrations analysed in EPAH matrices collected during the growing season 2021/22 in the SPRINT project case study sites (CSS; Spain, Portugal, France, Switzerland, Italy, Croatia, Slovenia, Czech Republic, Netherlands, Denmark, and Argentina). The location of the CSS and the related farms/fields is given in Annex 1.

In D2.2. we provided a literature overview on the distribution of the 207 SPRINT prioritized PPP substances in EPAH matrices (Alaoui et al 2022; Silva et al 2021). The review was based on National Monitoring Programs (NMP) of EU- SPRINT CSS countries combined with European publications (e.g. EFSA, FAO), and if not available, we considered national monitoring reports or peer-reviewed reviews. The review generally represents data from 2010 and onwards. Below we provide a brief summary of the outcome of the literature review.

<u>For soil</u>, a total of 77 PPPs above the LOQ of the 207 compounds included in the SPRINT program were reported. Glyphosate, AMPA, boscalid, dichlorodiphenyldichloroethylene (DDE p,p') and dieldrin were the compounds analysed in 50 % of the CSS countries. The highest concentration of pesticide residue analysed for most CSS countries, were for AMPA and glyphosate.

<u>For surface water,</u> 89 of the 207 SPRINT compounds, were detected. Atrazine was analysed in six CSS countries, followed by azoxystrobin and diuron in four CSS countries, and Glyphosate and isoproturon in three. The rest of the 89 PPPs were analysed in one or two CSS countries only. Diuron, carbendazim, atrazine, metolachlor, and isoproturon were commonly found in the highest concentrations.

<u>Air samples</u> were collected for Spain, France and Switzerland, where 33 out of the 207 PPPs were detected in air. The three compounds found at most locations in France were lindane, metolachlor and pendimethalin. For Switzerland, cyprodinil was analysed at most locations. Hexachlorobenzene, chlorothalonil and metachlor were most frequently found in the highest concentrations.

<u>For crop/plant</u>, chlorpyrifos was the pesticide residue most frequently observed at higher concentration for all CSS countries/crop type. Namely high concentration of chlorpyrifos were analysed for broccoli (Spain), spinach (Italy) and olives (Croatia). It should be noted that chlorpyrifos has been banned since early 2020. Nevertheless, this compound was included in the SPRINT target list.

For humans, the most well documented PPPs represented for the most countries and in most studies were DDE p,p' and Hexachlorobenzene (HCB) measured in serum and breast milk. Glyphosate or AMPA concentrations (urine) were only available for France, Slovenia, and Denmark. It was DDE p,p', HCB and chlorpyrifos-methyl for which the higher concentrations were observed.

For animal products, the persistent pesticides Dichlorodiphenyltrichloroethane (DDT p,p'), HCB, beta-hexachlorocyclohexane and dieldrin were most frequently found.

In this report, we present the results of the sampling campaign in the growing season of 2021/22 regarding PPP concentrations in the following matrices. The data will be uploaded on the SPRINT data sharing point.

Environment:	Soil, sediment, water, outdoor dust/air, indoor dust, plant (crops), bat faeces, earthworm, fish (liver, fillet, and gut),
Animal:	Blood, urine, stool, wristbands, milk, and feed.
Human:	Blood, urine, stool, and wristbands.

We experienced a delay in establishment of the list of target PPPs to be included in the SPRINT monitoring program, a delay in the data collection for some CSS, and setting up the analytical framework for analyzing 207 PPPs in the wide variety of matrices was a task substantially more complicated than expected. Therefore, data from some matrices are (partly) lacking (indoor dust, bat faeces, earthworm tissue, fish organs, partly urine, blood and faeces for human, urine, blood and faeces for animals, silicone wristbands for human and animals, animal milk, and feed). Therefore, not all data are provided in the current version of the report. More detailed descriptions of the reasons for delays can be found in Annex 2.

All environmental, animal, and human matrices have been collected according to appropriate and standardized SPRINT protocols and methods (Silva et al 2021) to ensure comparability between the different CSS across SPRINT as described in detail in the monitoring plan D2.1 (Alaoui et al 2021). Additionally, all CSS samples of the same matrix are analysed by the same laboratory to ensure the comparability of results within each matrix for all CSSs. Measuring PPP concentrations in samples collected during the growing season allows us to assess the accumulated residues as well as the residues of the recently applied PPPs.

This deliverable will serve as basis for D2.4 (inventory of EPAH health status in CSS) and will be the platform for the development of an inventory of PPPs’ exposure and validation of the model used in WP3 (D3.4), for WP4 to define the PPP mixtures to be tested in the (eco)toxicological tests as well as for the development of a health risk assessment toolbox (D5.1). In addition, the outcomes of this deliverable will feed into

D6.2 - Health damages and external costs at the regional level. Furthermore, all raw PPP data are stored in a joint PPP database on the SPRINT share-point "https://sprint-data.eu/" and will be used as input data for WP3 and WP5, and scientific publications.

The structure of this deliverable consists of PPP summary tables (n, % > LOD and/or % >LOQ, median, 5th percentile, and 95th percentile PPP concentrations measured in environmental and human samples from each SPRINT CSS. Data are provided for the 207 active substances and metabolites included in the analyses of PPP in the SPRINT project if concentrations are above the limit of quantification (>LOQ). The list of PPP compounds included in the analysis of environmental, and human samples is based on PPPs *a priori* known and expected to be applied in the SPRINT CSS, PPPs authorized for use in EU, and based on CSS pre-screen results from literature and interviews with farmers on PPP application (Silva et al. 2021).

PPP summary tables are stratified by farming type (conventional/organic) and results on human matrices are furthermore stratified by participant type (farmer, neighbour or consumer) and sex (male/female). Environmental matrices are further displayed per CSS and farming type. The type of crop and livestock per CSS is given in Table 1.

Table1. Crops and livestock types collected in SPRINT Case Study Sites, CSS

CSS (country - region)	Crops	Livestock
1. Spain - Cartagena (ES)	Vegetables (broccoli)	Sheep, goat
2. Portugal - Bairrada (PT)	Vineyards	No Livestock
3. France - Bordeaux (FR)	Vineyards	Pig, chicken
4. Switzerland - Central zone (CH)	Orchards	Diary
5. Italy - Po region (IT)	Vegetables	No Livestock
6. Croatia - Istria (HR)	Olives	Sheep
7. Slovenia - Central zone (SL)	Maize	Dairy and cattle for meat
8. Czech Republic - Central zone (CZ)	Oil plants	Diary, chicken
9. The Netherlands - Groningen region (NL)	Potatoes	Dairy
10. Denmark - Central zone (DK)	Cereals	Dairy
11. Argentina - Buenos Aries region (AR)	Cereals	Diary, chicken

2. Methods

2.1 Case study sites and participants

2.1.1. Selection of farms (including anonymized map)

Each CSS included at least 6 organic farms and 6 conventional farms per CSS (Table 2). Each CSS included 10 fields using a conventional/integrated pest management regime, and 10 organic fields. A maximum of two fields was selected per farm. Crop type and livestock production are stated in Table 1. The selected farms were representative of the farms in the CSS region (size, soil type, topography, socio-economic conditions, etc.). Organic and conventional fields were within the same pedo-climatic zone. Organic fields/farms were only considered when the transition occurred at least 5 years ago.

We aimed at representing the gender balance in the selection of the farmers, and farmers who were environmentally aware and interested in transition pathways and innovations. Finally, selected farmers agreed on using their land, crops and livestock to form the basis for exploring paths to transition. They also agreed to provide samples on their own, and to answer questionnaires on health status and land practices.

Additionally, the selected fields were connected, ideally, to not intermittent surface water bodies, allowing the sampling of water and fish. The fields and the water bodies were located within the same catchment. If possible, selected organic fields were at least 1 km away from conventional fields, to avoid more direct routes of cross-contamination (e.g. drift during application). More details are provided in D2.1 (Alaoui et al. 2021) - Monitoring plan for assessing Ecosystem, Plant, Animal and Human health at Case Study Sites.

2.1.2. Selection of farmers, neighbours and consumers.

Table 2 shows how farmers are distributed under conventional vs. organic farmers and what the gender balance is for all type of participants (farmer, neighbours, consumers).

Table 2. Distribution of the participants to the sampling within SPRINT.

CSS	Total	Farmers				Neighbours			Consumers		
		Female		Male		Female	Male	Unknown	Female	Male	Unknown
		Organic	Conv.	Organic	Conv.						
CSS 1- SP	70	6	6	6	6	10	8	4	12	12	0
CSS 2 - PT	69	5	6	6	6	12	10	0	15	9	0
CSS 3 – FR*	40	3	0	6	7	0	0	0	15	9	0
CSS 4 - CH	63	6	3	7	5	9	9	0	11	13	0
CSS 5 - IT	63	5	4	6	5	11	8	0	12	12	0
CSS 6 - HR	73	6	7	6	6	12	12	0	12	12	0
CSS 7 - SL	72	6	6	6	6	12	12	0	12	12	0
CSS 8 - CZ	67	5	7	7	7	9	8	0	12	12	0
CSS 9 - NL	71	6	5	6	7	12	11	0	15	9	0
CSS 10 - DK	60	5	4	7	6	8	9	0	11	10	0
CSS 11 - AR	73	3	3	7	7	15	13	0	17	8	0

**In the French CSS, neighbour samples could not be taken due to social issues between farmers and neighbours.*

2.1.3.1. Neighbours

Neighbours were people living in close proximity to the farm/field under consideration, who might in one way or another be exposed to the pesticides applied to the field by the farmer. CSS teams selected neighbours who lived as close as possible to the farm/field under consideration. Details regarding distance to the field/farm under consideration, wind direction, and waterbodies (if applicable) connecting the field and the neighbours' area of residence should be provided for each selection.

2.1.3.2. Consumers

There was a distinction between two types of consumers:

a) Consumers who lived in the same region as the farmer and regularly consumed local products of this specific farm, which were conventional or organic. The selected consumers did not have an occupation at the farm and were only exposed to PPP exclusively through the food supply. This was the preferred type of consumer.

b) Consumers who lived in the same region as the farmer and consumed products from conventional or organic farms in general and not necessarily from the farm itself.

A balance between consumers of organic and conventional products as well as between genders was ensured. In addition, the percentage of the consumption of organic products by the consumer was noted down.

2.2. EPAH samples

Below is a brief description of the sampling procedures for the environment and the human sampling. For details, please see the monitoring plan D.2.1 (Alaoui et al. 2021)

2.2.1. Sampling of environmental samples

An overview of the number of samples collected per environmental matrices and the state of analysis is given in Table. 3.

2.2.1.1. Soil

One composite sample per field was collected, being a combination of 5 sub-samples (~400 g per sub-sample) that were randomly sampled across the field. Environmental sampling took place in the middle of the growing season 2021/22 when about 80% of the pesticides were applied. Since in the CSS in Italy and Spain winter crops are grown, the sampling took place in autumn as well as in Argentina, whereas in the other CSSs sampling took place in early summer. The sampling depth was between 0 - 5 cm in permanent crops and 0 - 20 cm in arable land with tillage. After sampling, sub-samples were placed in a bucket, where they were mixed. The CSS leaders took 10 samples per CSS in organic and 10 in conventional fields, leading to a total of 220 soil samples. The samples were deep-frozen and sent to MU for analysis.

2.2.1.2. Water

Water was not a mandatory matrix for all the CSS, but only for those that had surface water bodies. A surface water body is a small river or stream channel of about 2 m large, small lakes, and ponds. If there were surface water bodies in the CSS area, the CSS teams collected between 3 (minimum) and 6 (maximum) water bodies. It was preferred if they were located in the vicinity of the organic and/or conventional agricultural fields, if possible, connected to them, and known to have fish in them. Water samples were collected sub-superficially, being directly collected with the plastic bottle. After sampling, the water samples were deep-frozen and sent to CIEMAT for analysis.

2.2.1.3. Sediment

Sediments were not a mandatory matrix for all the CSS, but only those that had water sampling locations. Sampling was done collecting 1 composite sample per water body, which consisted of 3 sub-samples collected at sites distancing at least 10 m from each other. The sampling depth was between 0 and 10 cm from the surface. After collection, the 3 sub-samples were placed into a stainless-steel homogenization container, where they were thoroughly mixed with a rod to obtain the composite sample. Each CSS collected between 3 and 6 sediment samples. After sampling ,the sediment samples were deep-frozen and sent to WU for analysis.

2.2.1.4. Outdoor air and dust

Sampling of outdoor air and dust was carried out during a period of 2 months during the growing season using a TIEM device (Figure 1). The collector (Figure 1b) uses a PUF disk, similar to the standard TE-200-PAS collectors used by the GAPS network. The PUF disks (diameter: 14 cm; height: 1.35 cm) were obtained from Tisch Environmental (Cleves, OH, USA) and have been validated extensively for pesticide sampling (Kruse-Plaß et al. 2020; Gouin T et al. 2008; Hayward et al. 2010; Koblizkova et al. 2012 and confirmed in the work of Zhang et al. 2011, 2012, 2013. One TIEM device was installed on the edge of an organic field, and another was installed on the edge of a conventional field. The sampling device was installed one month before the mid growing season/sampling campaign. Both devices stayed in the field for 8 weeks, with no need of maintenance. After these 8 weeks, the 4 PEF filters and the PUF filters were removed from each device. After sample collection the filters were sent to the KWALIS laboratory in Germany for analysis.

a)

b)

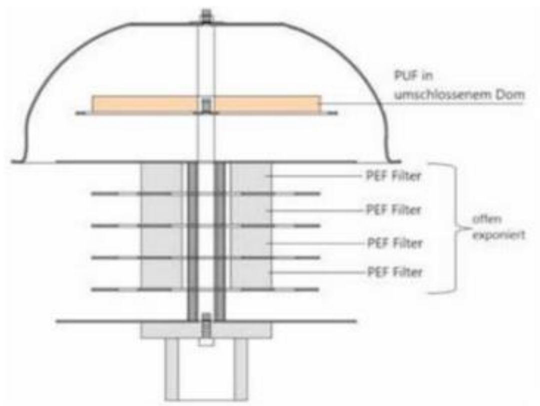

Figure 1. a) TIEM device and b) structure of the device with 4 PEF filters (air) and 1 PUF filter (particles).

2.2.1.5. Crop/Plant

Crop sampling was carried out close to harvest, when vegetative and reproductive plants were present. The exact parts to sample were specific to each CSS, depending on what is used as harvesting product (leaves, root, grains, etc). A composite sample was prepared per part of the plant (leaves, grain, etc), being a combination of 5 plants/trees. Sampling was made in areas of the field that were representative of soil and crop, and at least 5 m away from the edge of the field. Each plant was equally represented in the composite sample. When multiple plant types were considered within the CSS crop class, type 1 (e.g. broccoli, grapes) was sampled in 5 conventional and 5 organic fields and type 2 (e.g. orchards, vegetables) in the other 5 conventional and 5 organic fields. Plants were then deep frozen and sent MU university for analysis.

2.2.1.6. Earthworm

To do the earthworm sampling, a 25x25x25 cm monolith was dug in a representative plot. Then, all the vegetation was cut, and the leaf litter was removed from the sample area. Earthworm extraction was conducted by using a mustard solution. 5 minutes after the application of the mustard solution to the soil surface any worms that came to the surface was collected. After 5 minutes, the remaining mustard solution was poured again to the sample area, waiting again 5 minutes to gather any other worm that came to the surface. Earthworms were then deep frozen and sent to MU for analysis.

2.2.1.7. Fish

Fish sampling was carried out within the same water bodies where the water sampling tool place. At least 3 water bodies were selected, from which 5 fish were collected to get one composite sample. The sampling and the euthanization was done by a local fish expert with a license for fish collection and a person with a certificate in animal experimentation, respectively. After sampling, fishes were euthanized and the filets, the liver and the gut content of the 5 fishes per water body were aggregated per tissue type, deep frozen and sent to WR for analysis.

2.2.1.8. Bat

For the bat faeces sampling a local bat scientist was contacted since sampling inside a roost requires a license for working with endangered species. The local bat scientist and the SPRINT bat expert, Herman Limpens, selected the best time for the sampling, the bat species and the roosts that were sampled. One composite sample of faeces per roost was collected. Each composite was a combination, if possible, of 3 to 5 roosts per CSS. The samples were deep frozen and sent to WR for analysis.

Table 3 shows the number of soil, water, sediment and outdoor dust samples that were collected across all CSS countries versus the number of these samples that were analysed until now (last update 21/02/2022).

No samples of indoor dust, fish (liver, fillet and gut), earthworm tissue and bat faeces have been analysed yet. Thus, these samples are not included and discussed in the current version of this report.

Table 3: Overview of the number of environmental samples collected versus analysed environmental samples per CSS.

	Number of samples												
	Soil		**Water**		**Sediment**		**Air /outdoor dust**		**Indoor dust***	**Crop***	**Fish***	**Bat***	**Earthw***
CSS	C	A	C	A	C	A	C	A	C*	C*	C*	C*	C*
CSS 1- SP	20	20	7	7	0	0	2	2	In progress	20	0	4	20
CSS 2 - PT	60	20	8	8	8	8	2	2	11	20	12	2	18
CSS 3 - FR	17	17	6	6	5	5	2	2	14	16	0	0	14
CSS 4 - CH	20	18	5	4	5	5	2	2	12	21	14	3	20
CSS 5 - IT	20	20	6	6	20	20	2	2	11	20	0	0	18
CSS 6 - HR	20	20	3	3	3	3	2	2	16	20	9	12	0
CSS 7 - SL	20	20	6	6	6	6	2	2	12	20	5	25	20
CSS 8 - CZ	24	24	3	8	3	3	2	2	14	21	6	14	24
CSS 9 - NL	20	20	6	6	4	NA	2	2	16	20	9	3	20
CSS 10 - DK	20	20	3	3	3	3	2	2	36	19	3	2	20
CSS 11 - AR	NA	0	6	6	NA	NA	2	0	NA	NA	NA	NA	NA

C: collected; A: analysed; ***Indoor dust, plant, fish, bat and earthworms have not yet been analysed for PPP residues; NA: not available/not received; For indoor dust, crop, fish, bat, and earthworms, samples have been collected but not yet analysed.

2.2.2. Human sampling

2.2.2.1. Human blood

A blood sample (Phlebotomy) was drawn from each participant by a trained health personal. Both whole blood, serum or plasma was collected and marked with SPRINT participant ID, in total 30-40ml. After centrifugation and aliquoting, the blood samples were stored at -80°C until transportation to SKU for further analysis.

2.2.2.2. Human urine

Each participant collected a urine sample of approx. 60-125 mL and placed it in a cool box (2-10°C). The same day or at the most 24 hours after the sampling, the urine was aliquoted into different tubes/portions. After aliquoting, all tubes are put into a sorbent pouch (which can absorb excess liquid during transportation) and placed into a safety bag with SPRINT participant ID and date and stored in the freezer (-18°C or lower) until transport to the analytical laboratory of WR.

2.2.2.3. Human stool sampling

Each participant collected a stool sample. Pre-labelled collection tubes together with the provided collection materials were handed out to the participants before the visit together with a cooling bag (2-10°C). Participants were asked to collect a sample of the first bowel movement of the day. Per subject, 5 scoops of stool sample were collected and kept at -18 °C until transportation to the analytical laboratory of WR.

2.2.2.4. Sampling of human silicone wristbands

Pre-cleaned silicone wristbands (one size, 20cm) were supplied directly to CSS leaders. After proper SPRINT id mapping of the wristbands, the participants were provided the wristband to be worn from the day of blood sampling for one week. The human wristbands should be worn around the wrist of the dominant hand, continuously during the complete experiment. This includes also sleeping and taking showers. After one week the wristbands were placed in a zip-lock bag and stored in a freezer until transportation to the analytical laboratory of SKU/WR.

In table 4 is shown the number of human samples that were collected per matrix/per CSS. The number of samples that currently have been analysed are also provided. These analysed samples refer to all samples analysed as of 21/02/2022.

No samples on human wristbands have been analysed yet. Thus, these samples are not included and discussed in the current version of this report.

2.2.3. Animal sampling

2.2.3.1. Blood sampling

A blood sample (Phlebotomy) was drawn from each animal (cat, cattle, sheep, chicken) by a trained health personal. Serum or plasma was collected and marked with SPRINT ID, the amount depended on the type of animal. After centrifugation aliquoting, the blood samples were stored at -80°C until transportation to the analytical lab of SKU.

Table 4: Overview of the amount of human samples collected versus analysed human samples per CSS.

Amount of samples	**Blood**		**Urine**[a]		**Stool**		**Wristband**
	Collected	Analysed[b]	Collected	Analysed	Collected	Analysed[d]	Collected[c]
CSS 1- SP	72	0	72	0	72	0	72
CSS 2 - PT	69	27	69	0	69	0	69
CSS 3 - FR	15[d]	5	15 [d]	0	15 [d]	0	15 [d]
CSS 4 - CH	63	0	63	59	60	59	52
CSS 5 - IT	63	0	63	0	63	0	63
CSS 6 - HR	73	0	240	66	288	72	72
CSS 7 - SL	72	24	72	0	71	71	71
CSS 8 - CZ	67	48	67	0	66	47	67
CSS 9 - NL	71	26	71	72	71	72	60
CSS 10 - DK	59	24	60	0	58	0	60
CSS 11 - AR	?	0	?	0	?	0	?

[a]Human urine samples have currently only been analysed for glyphosate and AMPA. [b]The measurements for PPP concentrations human blood samples have been done for pooled blood

samples. [c]Human wristband have not yet been analysed for PPP residues. [d]This amount of human samples refers to the amount that was send for analysis for CSS-3. In total 39 participants were probed for CSS-3.

2.2.3.2. Urine sampling

Depending on the type of animal (goat, pig, cattle, sheep) 100 ml urine was collected and aliquoted the same day into different tubes/portions. After aliquoting, all tubes are put into a sorbent pouch (which can absorb excess liquid during transportation) and placed into a safety bag with SPRINT ID and date and stored in the freezer (-18°C or lower) until transport to the analytical laboratory of WR.

Table 5: Overview of the amount of animal samples collected for each CSS.

Amount of samples	**Type of animal**	**Blood**	**Urine**	**Stool**	**Wristband**	**Milk**	**Feed**
CSS 1- ES	Goat	18	18	18	18	6	6
CSS 2 - PT	Pig	4	1	4	N.A.	N.A.	1
	Chicken	3	N.A.	5	7	N.A.	2
	Cat	0	N.A.	3	3		
CSS 3 - FR[a]	-	-	-	-	-	-	-
CSS 4 - CH	Cattle	18	17	18	18	9	7
	Goat	3	1	1	0	1	1
	Sheep	3	0	0	0	0	0
	Chicken	3	N.A.	3	0	N.A.	1
	Cat	4	N.A.	0	0	N.A.	0
CSS 5 – IT[b]	Cat	3	N.A.	0	1	N.A.	0
CSS 6 - HR	Sheep	10	0	30	30	24	10
	Cat	3	N.A.	3	3	N.A.	0
CSS 7 - SL	Cattle	36	36	36	10	12	12
	?	18	11	16	8	5	8
	Cat	3	N.A.	4	2	N.A.	0
CSS 8 - CZ	Cattle	12	10	12	12	4	7
	Sheep	3	3	3	3	1	1
	Chicken	17	N.A.	17	16	N.A.	6
	Cat	4	N.A.	4	3	N.A.	0
CSS 9 - NL	Cattle	8	6	9	6	2	4
	Sheep	6	0	6	5	0	2
	Cat	4	N.A.	0	3	N.A.	0
CSS 10 - DK	Cattle	36	36	36	27	12	12
	Chicken	56	60	58	60	N.A.	0
	Cat	2	N.A.	2	2	N.A.	0

CSS 11 - AR	?	?	?	?	?	?	?

[a]No animal samples were collected in CSS-3.[b] No Livestock were probed in CSS-5

2.2.3.3. Stool sampling

Depending on the type of animal (goat, pig, cattle, sheep, chicken, cat) stool were samples directly from the animal or identified in the close vicinity. Pre-labelled collection tubes together with the provided collection materials used by the health personal to collect the stool. If possible, 5 scoops of stool sample were collected and kept at -80 °C until transportation to the analytical laboratory of WR.

2.2.3.4. Silicone wristbands

Pre-cleaned silicone wristbands (one size, 20cm) were supplied directly to CSS leaders. After proper SPRINT id mapping of the wristbands, the animals (goat, chicken, cat, cattle, sheep) were equipped with the wristband to be worm from the day of blood sampling for one week. The wristbands could be worn in different positions, depending on the type of animal. After one week the wristbands were removed from the animal, placed in a zip-lock bag and stored in a freezer until transportation to the analytical laboratory of SKU and WR.

In table 5 is shown the amount of animal samples that were collected per matrix/per CSS. The number of samples that currently have been analysed are also provided. These analysed samples reverse to all samples analysed as of 21/02/2022.

No samples of animals (blood, urine, stool, wristbands, milk, feed) have been analysed yet. Thus, these samples are not included and discussed in the current version of this report.

2.3. Analytical methods for PPP measurements

*2.3.1. Analytical methods for **environmental** samples.*

2.3.1.1. Sediment

Before handling, the samples were allowed to reach room temperature. The samples were mixed and centrifuged at 3500 rpm during 5 min. In case of a water layer on top of the solid fraction, the water layer was decanted.

<u>Multipesticide analysis LC-MS/MS and GC-MS/MS</u>

First, 2 g of sample were weighed in an extraction tube followed by the addition of 4 mL of water for LC and 2 ml for GC samples. Next, 4 mL of acetonitrile containing 1%

of acetic acid were added. The tubes were shaken during 30 minutes followed by addition of 1.6 g of magnesium sulfate and 0.4 g of sodium acetate. The tubes were once again shaken during 10 minutes followed by centrifugation. For LC-MS/MS measurements, 250 µL of extract were diluted in vial with 250 µL of methanol containing 0.1% acetic acid. For GC-MS/MS measurements, a clean-up procedure was applied. For this, 1 mL of acetonitrile was added to a tube containing 150 mg MgSO4, 25 mg C18 and 250 mg PSA followed by addition of 1 mL extract. The tubes were shaken and followed by adding internal standard and homogenized by shaken again, centrifuged, and 200 µL of extract were transferred to an insert vial for analysis.

Glyphosate and AMPA

First, 2 g of sample were weighed in an extraction tube, then 50 µl of the isotopically-labelled internal solution 5.0 µg/ml was added and followed by the addition of 10 ml of 0.6 M KOH. The tubes were shaken during 1 hour followed by centrifugation. Then, 1.0 ml of supernatant was transferred in a 10 ml tube, where 80 µl of 6 M HCl was added and the tube was gently homogenized.

A derivatization procedure was performed by the addition of 500 µL of borate buffer 5% followed by 500 µL of FMOC chloride at 6.5 mM. The tubes were gently homogenized and allowed to stand for 30 min for derivatization. After that, the derivatization reaction was stopped by addition of 50 µL of formic acid. The samples were centrifuged and placed in autosampler vials for analysis.

2.3.1.2. Soil

All soil samples were thawed and homogenized (hand-mixed until a visual homogeneous sample was obtained). The sample was split into two parts: 2 g for the determination of glyphosate and its main metabolite AMPA, and 5 g for the screening of multi-residues.

Glyphosate and AMPA

For the soil 2 g subsamples were transferred to 50 mL plastic centrifuge tubes and were extracted with 10 mL of 0.6 M KOH. The samples were shaken for 1 h in a shaker and then centrifuged at 3500 rpm for 30 min. Thereafter, 0.5 mL of the supernatant was transferred to a plastic tube, 40 µL of 6 M HCl was added to adjust the pH, and 10 µl of a 10 µg/mL isotope-labelled standard glyphosate and AMPA solution were added. The derivatization step was carried out by adding 0.25 mL of 5% borate buffer and 0.25 mL of FMOC-Cl were also added. The tubes were shaken and incubated for 30 min at room temperature. The reaction was stopped by adding 25 µL of formic acid. All samples were then shaken manually, and 0.5 mL was transferred to plastic LC vials integrated with 0.45-µm PFTE filters.

Multi-residue analysis of pesticides

First, 5 g soil was weighed into a 50 mL Greiner tube, and 10 µL of D6-metolachlor 10 µg/mL was added as procedural internal standard. Next, 10 mL Millipore water and 10 mL of acetonitrile were added. The tube with this mixture was agitated for 15 min, after which, 4 g $MgSO_4$, 1 g NaCl,1 g sodium citrate, 0.5 g disodium citrate were added to the tube. The tube was then vortexed and centrifuged (5 min, 3500 rpm) and the supernatant was collected: part to be analysed using LC-MS/MS, with electrospray ionization (ESI) in positive and negative mode, and part to be analysed using GC-MS/MS. For the LC-MS/MS analysis, 100 µL of the supernatant and 100 µL of Millipore water (0.1%FA) were added directly into a LC filter vial to be analysed. For the GC-HRMS analysis, there was an extra clean-up step: 1 mL of the supernatant were transferred into an Eppendorf tube containing 25 mg of primary secondary amine (PSA), 3.5 mg of Graphitized Carbon Blacks (GCB) and 150 mg of magnesium sulfate. The Eppendorf was then centrifuged (15 min, 13,000 rpm) and 100 µL of the cleaned supernatant and 10 µL of ^{13}C-PCB-162 1 µg/mL (used as injection standard in the GC-HRMS analysis) was added into a conical glass vial to be analysed.

2.3.1.3 Water

Multi-residue analysis of pesticides

Water samples (1 L) were filtered and acidified to pH 3 with formic acid and then extracted by solid-phase extraction (SPE). Oasis HLB (500 mg, 6 mL) cartridges were firstly conditioned with 10 mL of methanol followed by 10 mL of ultrapure water adjusted to pH 3 with formic acid. Once the sample passed through the cartridge, it was dried with air for 30 min and then was eluted with 25 mL of methanol. The extract was evaporated, under a stream of nitrogen, to 5 mL. This extract was divided in two aliquots for the GC and HPLC analyses. For the HPLC analysis, the extract was concentrated to 0.5 mL and 50 µL of 0.1 % formic acid in water was added. For the GC analysis, a solvent exchange into isooctane was conducted by evaporating the 2.5 mL methanol aliquot and reconstitution of the residue into 0.5 mL of isooctane.

Glyphosate/AMPA

Filtered water samples (100 mL) were treated with 25 mL of 0.1 M KH2PO4 and ultrasonicated for 30 min. Then, 0.1 M K3B4O7˙10H2O was used to basify the sample (pH=9) and FMOC-Cl was used fo r the derivatization. The extract was shaken vigorously and was kept overnight in darkness at room temperature. Next, the reaction was stopped by acidifying the solution to pH 3 by adding 1 mL of formic acid. The derivatized sample was diluted with ultrapure water to approximately 340 mL and passed through Oasis HLB (200 mg, 6 mL). Samples were loaded on cartridges previously conditioned with 5 mL of methanol and 5 ml of 0.1% formic acid in water. The excess of water was removed by opening the valves and letting air pass through the cartridges for 30 min. Then, to remove the derivatization by products, the cartridges were rinsed with dichloromethane and dried with air for another 30 min. The analytes were eluted with MeOH. The extracts were concentrated under a gentle nitrogen stream and analysed in the HPLC-MS/MS.

Organochlorinated pesticides

Water samples (250 mL) filtered were extracted by liquid-liquid extraction with 200 mL of dichloromethane. The extracts were solvent exchanged into hexane and concentrated under a gentle nitrogen stream to 100 µL. Samples were analysed by GC-HRMS.

2.3.1.4 Outdoor air and dust

<u>PUF Filters</u>

The extraction of the PUF was carried out with dichloromethane in a Soxhlet extractor. The samples were extracted for 24 h using at least 16 extraction cycles. After cooling, n-butyl acetate was added as a keeper and the mixture was evaporated to approximately 20 ml. After concentrating the extract to 1 ml under a stream of nitrogen, on the extract was analysed by LC–MS/MS and GC–MS/MS.

<u>PEF filters</u>

Glyphosate and AMPA were extracted from the PEF materials with 0.125 N hydrochloric acid and then derivatized with fluorenylmethoxycarbonyl. The analysis was conducted by means of LC–MS/MS.

2.3.2. Analytical methods for **animal/human** samples

The development and validation of sufficiently sensitive methods for the analysis of 200+ PPPs is challenging because of the complex matrices (e.g. blood plasma) for which methods regarding the current use PPPs have not been well-established and published. The start of the method development and validation process was delayed due to the availability of the required reference standards. For the wristbands efforts have been made to provide an efficient and cost-effective workflow for the sample pre-treatment to support the three different analytical methods needed to cover the wide range of PPPs. The time effort for aforementioned tasks was underestimated in the planning phase. Non-compliance with procedures to provide the field samples in an organized way further slowed down the workflow. Contingencies included redistribution of some of the work to other laboratories within the consortium. Because of overall limited capacity within the consortium for blood plasma a laboratory external to the consortium was commissioned for an outsourced pre-screening analysis of pooled serum samples. For clinical biomarkers efforts to outsource to clinical service laboratories were not successful due to constraints of these external parties that were incompatibility with project requirement (e.g. requirements to keep the samples in a biobank).

Taking these delays in account, we are now at a point that we have an instrument method ready, so to say: we are able to measure the PPPs on LC-MS/MS. However, can cannot start to analyze the samples because we still need to do the validation. In the case that validation is unsatisfactory, getting back to optimizing the instrument and/or sample preparation method is needed. If everything goes well from where we are now we will be ready to start measuring the CSS samples in April 2022.

2.3.2.1. Blood plasma

The sample preparation method for plasma PPP analysis is based on an adapted QuEChERS extraction method as described in AOAC 2007.01. In short, 1 ml of plasma is added to an extraction tube together with 3ml of 0.1% formic acid in acetonitrile. After vortexing, 1.5 g of QuEChERS salts are added (1.3 g magnesium sulfate, 0.3 g sodium acetate) and vortexed. Samples are centrifuged for 5 minutes at 3200 RCF and the supernatant is collected and divided in 2 times 1 ml in separate sample concentration tubes (1 ml for LC analysis and 1 ml for GC analysis) with added 10 µl of DMSO. The 1 ml for LC analysis is, after evaporation under a nitrogen stream until 10 µl left, reconstituted in 100µl 50/50 5 mM ammonium formate/methanol in 0.1% formic acid and transferred to a LC vial. Finally, 2 µl are injected in the LC-MS/MS system for analysis.

2.3.2.2. Stool

Multi-pesticide analysis LC-MS/MS and GC-MS/MS

Before handling, the samples were allowed to reach room temperature. Then, 2 g of sample were weighted in an extraction tube followed by the addition of 4 mL of water. Next, 4 mL of acetonitrile containing 1% of acetic acid were added. The tubes were shaken for 30 minutes followed by addition of 1.6 g of magnesium sulphate and 0.4 g of sodium acetate. The tubes were once again shaken for 10 minutes followed by centrifugation. For LC-MS/MS measurements, 250 µL of extract were diluted in vial with 250 µL of methanol containing 0.1% acetic acid. For GC-MS/MS measurements, a clean-up procedure was applied. For this, 1 mL of acetonitrile was added to a tube containing 150 mg MgSO4, 25 mg C18 and 250 mg PSA followed by addition of 1 mL extract. The tubes were shaken, centrifuged, and 200 µL of extract were transferred to an insert vial for analysis.

2.3.2.3. Urine (glyphosate/AMPA)

Before handling, the samples were allowed to reach room temperature. The samples were vortexed during 30 s and centrifuged at 3000 rpm during 5 min.

Procedure for AMPA

To a 200 µL sample portion, 10 µL of the isotopically-labelled internal standard at 20 ng/mL was added. Then, 100 µL of borate buffer 5% was added followed by 100 µL of FMOC chloride at 6.5 mM. The tubes were gently homogenized and allowed to stand for 30 min for derivatization. After that, the derivatization reaction was stopped by addition of 10 µL of formic acid. The samples were shaken and placed in autosampler vials for analysis.

Procedure for glyphosate

To a 1 mL sample portion, 10 µL of the isotopically-labelled internal standard at 100 ng/mL was added. After homogenization, the samples were loaded to the SPE cartridges (Strata SAX, 200 mg) previously conditioned with 1 mL of acetonitrile followed by 1 mL of water. After that, the cartridges were washed with 2 mL of water followed by 2 mL of acetonitrile. Then, the cartridges were dried under vacuum. The samples were eluted with 1 mL of NaCl 200 mM in HCl 0.1 M into a polypropylene reaction tube and 20 µL of NaOH at 5 M was added.

The derivatization procedure was performed by addition of 500 µL of borate buffer 5% followed by 500 µL of FMOC chloride at 6.5 mM. The tubes were gently homogenized and allowed to stand for 30 min for derivatization. After that, the derivatization reaction was stopped by addition of 50 µL of formic acid. The samples were shaken and placed in autosampler vials for analysis.

2.3.3. Limit of Detection and Quantification for analytical techniques

The limit of detection (LOQ) is defined as the lowest level that has been tested during the initial validation and meets the criteria set in the documents SANTE/11813/2017 and SANTE/2020/12830, Rev.1 from the European Commission. That criterion is that mean recoveries from initial validation should be within the range 70–120%, with an associated repeatability RSDr ≤ 20%, for all analytes within the scope of a method. Exceptionally, for food/feed of plant and animal origin, the acceptable range of mean recoveries and the required precision are specified in Table 6. In any case, the mean recovery must not be lower than 30% or above 140%.

Table 6. Requirements for mean recovery and precision for food/feed of plant and animal origin

Concentration level (mg/kg)	Range of mean recoveries (%)	Precision, RSD (%)
≤0.01	60-120	30
>0.01 - ≤0.1	70-120	20
>0.1 - ≤1.0	70-110	15
>1	7-110	10

The limit of detection (LOD) is the estimated lowest level at which the analyte can be detected and also identified. The LOD value for many matrices may vary from sample to sample and it also depends on the condition of the instrument at the time of the analysis. Therefore, it is not a fixed exact value. Here, the signal to noise (S/N) ratio is used. The LOD is the level at which S/N for both quantifier and qualifier is at least 3.

Annex 3 provides an overview Table with all LOD/LOQ for each matrix

2.3.4. Data analysis

Templates for input data from each laboratory were provided from WP2. Based on these input data, databases for environmental samples and human samples were constructed. Summary tables were created for all measurements across CSS, and also stratified by farming type (conventional/organic). For human results, data was furthermore stratified by participant type (farmer, neighbour or consumer) and sex (male/female). Environmental matrices was further displayed per CSS.

For each Table, number of analysed samples, percentage of samples > LOQ and/or percentage of samples > LOD, median concentration, 5th percentile, and 95 percentile of each PPP are provided. Median, p5, and p95 are calculated using only the concentrations >LOQ. For interpretation of data, table 7 provides the legal status of PPP compound legal status according to the EC Regulation 1107/2009.

Table 7: PPP compounds legal status according to the EC Regulation 1107/2009.

PPP compound	Type	Status under Reg. (EC) No 1107/2009
Glyphosate	Herbicide	Approved
Ampa	Herbicide	Approved
2,4-D (free)	Herbicide	Approved
2.4-D-ethylhexyl	n.a.	
3-chloranilin	n.a.	
Acetamiprid	Insecticide	Approved
Acetamiprid: Acetamiprid-N-desmethyl	Insecticide	
Aclonifen	Herbicide	Approved
Ametoctradin	Fungicide	Approved
Anthrachinon	Bird repellent	Not approved
Atrazine	Herbicide	Not Approved
Azadirachtin	Insecticide	Approved
Azoxystrobin	Fungicide	Approved
Azoxystrobin-O-demethyl	Fungicide (metabolite)	
Benalaxyl	Fungicide	Not Approved
Benfluralin	Herbicide	Approved
Bentazone	Herbicide	Approved
Bifenthrin	Insecticide	Not Approved
Biphenyl	Fungicide	Not Approved

Bixafen	Fungicide	Approved
Bixafen desmethyl	Fungicide (metabolite)	
Boscalid	Fungicide	Approved
Bromoxynil	Herbicide	Not Approved
Captan	Fungicide	Approved
Captan THPI	Fungicide (metabolite)	
Carbendazim	Fungicide	Not Approved
Carfentrazone	Herbicide	Approved
Carfentrazone-ethyl	Herbicide	Approved
Chlorantraniliprole	Insecticide	Approved
Chlorflurenol	Herbicide	Not Approved
Chloridazon	Herbicide	Not Approved
Chlorothalonil	Fungicide	Not Approved
Chlorothalonil 4-hydroxy	Fungicide (metabolite)	
Chlorotoluron	Herbicide	Approved
Chlorpropham	Herbicide	Not Approved
Chlorpyrifos	Insecticide	Not Approved
Chlorpyrifos -desethyl	Insecticide (metabolite)	
Chlorpyrifos/-methyl: tcpy	Insecticide (metabolite)	
Chlorpyrifos-methyl	Insecticide	Not Approved
Chlorpyrifos-methyl -desmethyl	Insecticide (metabolite)	
Chlorthalonil	Fungicide	Not Approved
Clomazone	Herbicide	Approved
Clothianidin	Insecticide	Not Approved
Cyantraniliprole	Insecticide	Approved
Cyflufenamide	Fungicide	Approved
Cyfluthrin (beta-cyfluthrin)	Insecticide	Not Approved
Cymoxanil	Fungicide	Approved
Cypermethrin	Insecticide	Approved
Cyproconazole	Fungicide	Approved
Cyprodinil	Fungicide	Approved
Cyprodinil metabolite CGA304075	Fungicide (metabolite)	
DDD o,p'	insecticide (metabolite)	Not Approved
DDD p,p'	insecticide (metabolite)	Not Approved
DDE p,p'	insecticide (metabolite)	Not Approved
DDE, o,p'	insecticide (metabolite)	Not Approved
DDT o,p'	insecticide	Not Approved
DDT p,p'	insecticide	Not Approved
Deet	insecticide	Not Approved
Deltamethrin	insecticide	Approved
Dicamba	Herbicide	Approved
Dicloran	Fungicide	Not Approved
Dieldrin	insecticide	Not Approved

Difenoconazole	Fungicide	Approved
Diflufenican	Herbicide	Approved
Diflufenican AE-B107137	Herbicide (metabolite)	
Dimethenamid (P)	Herbicide	Approved
Dimethoate	Insecticide	Not Approved
Dimethomorph	Fungicide	Approved
Dimoxystrobin	Fungicide	Approved
Dinotefuran	insecticide	Not Approved
Diphenamid	Herbicide	Not Approved
Dithianon	Fungicide	Approved
Diuron	Herbicide	Not Approved
Emamectin	insecticide	Approved
Epoxiconazole	Fungicide	Not Approved
Esfenvalerate	insecticide	Approved
Ethofumesate	Herbicide	Approved
Famoxadone	Fungicide	Approved
Fenbuconazole	Fungicide	Approved
Fenhexamid	Fungicide	Approved
Fenoxycarb	Insecticide	Approved
Fenpropidin	Fungicide	Approved
Fenpropimorph	Fungicide	Not Approved
Fenvalerate	Insecticide	Not Approved
Fipronil	Insecticide	Not Approved
Fipronil sulfone	Insecticide (metabolite)	
Flazasulfuron	Herbicide	Approved
Flonicamid	Insecticide	Approved
Florasulam	Herbicide	Approved
Fluazifop (P) (only free)	Herbicide	Approved
Fluazinam	Fungicide	Approved
Fludioxonil	Fungicide	Approved
Flufenacet	Herbicide	Approved
Flumioxazine	Herbicide	Approved
Fluopicolide	Fungicide	Approved
Fluopyram	Fungicide	Approved
Fluopyram benzamide	Fungicide (metabolite)	
Fluoxastrobin	Fungicide	Approved
Flupyradifurone	Insecticide	Approved
Fluroxypyr (only free)	Herbicide	Approved
Flusilazole	Fungicide	Not Approved
Flutolanil	Fungicide	Approved
Fluxapyroxad	Fungicide	Approved
Folpet	Fungicide	Approved
Folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide (metabolite)	

Foramsulfuron	Herbicide	Approved
Fosthiazat	Insecticide	Approved
Haloxyfop-P (Haloxyfop-R) (free)	Herbicide	Not Approved
Hcb	Fungicide	Not Approved
Hexachlorobenzene	Fungicide	Not Approved
Icaridin	Insecticide reppelent	Not Approved
Imazalil	Fungicide	Approved
Imidacloprid	Insecticide	Approved
Imidacloprid (5-hydroxy)	Insecticide (metabolite)	
Imidacloprid (desnitro-)	Insecticide (metabolite)	
Indoxacarb	Insecticide	Approved
Iprovalicarb	Fungicide	Approved
Isoproturon	Herbicide	Not Approved
Isoxaben	Herbicide	Approved
Isoxaflutole	Herbicide	Approved
Kresoxim-methyl	Fungicide	Approved
Lambda-Cyhalothrin	Insecticide	Approved
Lenacil	Herbicide	Approved
Lindane (gamma-HCH)	Insecticide	Not Approved
Linuron	Herbicide	Not Approved
Mandipropamid	Fungicide	Approved
Mcpa	Herbicide	Approved
Mecoprop (P)	Herbicide	Approved
Meptyldinocap	Fungicide	Approved
Meptyldinocap phenol (CAS 3687-22-7)	Fungicide (metabolite)	
Metalaxyl (M)	Fungicide	Approved
Metalaxyl metabolite cga 62826 (87764-37-2)	Fungicide (metabolite)	
Metamitron	Herbicide	Approved
Metamitron-desamino	Herbicide (metabolite)	
Metazachlor	Herbicide	Approved
Metconazole	Fungicide	Approved
Methabenzthiazuron	Herbicide	Not Approved
Methiocarb	Insecticide	Not Approved
Methiocarb sulfon	Insecticide (metabolite)	
Methiocarb sulfoxide	Insecticide (metabolite)	
Methoxyfenozide	Insecticide	Approved
Metobromuron	Herbicide	Approved
Metolachlor (S)	Herbicide	Approved
Metolachlor ethane sulfonic acid	Herbicide (metabolite)	
Metolachlor oxanilic acid	Herbicide (metabolite)	
Metrafenone	Fungicide	Approved
Metribuzin	Herbicide	Approved

Metsulfuron-methyl	Herbicide	Approved
Myclobutanil	Fungicide	Approved
Napropamide	Herbicide	Approved
Nicosulfuron	Herbicide	Approved
Oryzalin	Herbicide	Approved
Oxadixyl	Fungicide	Not Approved
Oxyfluorfen	Herbicide	Approved
Penconazole	Fungicide	Approved
Pencycuron	Fungicide	Approved
Pendimethalin	Herbicide	Approved
Penoxsulam	Herbicide	Approved
Pentachloranilin	metabolite of quinotozene	Not approved
Pentachloranisol	metabolite of pentachlorophenol	Not approved
Permethrin	Insecticide	Not Approved
Phenmedipham	Herbicide	Approved
Phosmet	Insecticide	Approved
Phosmet oxon	Insecticide (metabolite)	
Phoxim	Insecticide	Not Approved
Piperonyl butoxide	Other	Not Approved
Pirimicarb	Insecticide	Approved
Pirimicarb desmethyl-	Insecticide (metabolite)	
Pirimiphos-methyl	Insecticide	Approved
2-diethylamino-6-methyl pyrimidin-4-ol	Insecticide (metabolite)	
Pirimiphos-methyl-desmethyl	Insecticide (metabolite)	
Pirimiphos-methyl-N-desethyl	Insecticide (metabolite)	
Prochloraz	Fungicide	Approved
Prochloraz BTS 44595	Fungicide (metabolite)	
Prochloraz BTS 44596	Fungicide (metabolite)	
Prometryn	Herbicide	Not Approved
Propamocarb	Fungicide	Approved
Propaquizafop	Herbicide	Approved
Propiconazole	Fungicide	Not Approved
Propoxur	Insecticide	Not Approved
Propyzamide	Herbicide	Approved
Prosulfocarb	Herbicide	Approved
Prothioconazole	Fungicide	Approved
Prothioconazole desthio	Fungicide (metabolite)	
Pymetrozine	Insecticide	Not Approved
Pyraclostrobin	Fungicide	Approved
Pyraflufen-ethyl	Herbicide	Approved
Pyrethrin I	Insecticide	Approved
Pyrethrin II	Insecticide	Approved

Pyrimethanil	Fungicide	Approved
Pyrimethanil_M605F002	Fungicide (metabolite)	
Pyriofenone	Fungicide	Approved
Pyriproxyfen	Insecticide	Approved
Pyroxsulam	Herbicide	Approved
Quinoxyfen	Fungicide	Not Approved
Quizalofop (P) free acid	Herbicide	Approved
Rimsulfuron	Herbicide	Approved
Sedaxane	Fungicide	Approved
Spinetoram	Insecticide	Approved
Spinosyn A	Insecticide	Approved
Spinosyn D	Insecticide	Approved
Spirotetramat	Insecticide	Approved
Spirotetramat-enol	Insecticide (metabolite)	
Spirotetramat-enol-glucoside	Insecticide (metabolite)	
Spirotetramat-keto-hydroxy	Insecticide (metabolite)	
Spirotetramat-mono-hydroxy	Insecticide (metabolite)	
Spiroxamine	Fungicide	Approved
Tau-Fluvalinate	Insecticide	Approved
Tebuconazole	Fungicide	Approved
Tefluthrin	Insecticide	Approved
Terbuthylazine	Herbicide	Approved
Terbuthylazine-desethyl	Herbicide (metabolite)	
Terbutryn	Herbicide	Not Approved
Tetraconazole	Fungicide	Approved
Tetramethrin	Insecticide	Not Approved
Thiabendazole	Insecticide	Approved
Thiacloprid	Insecticide	Not Approved
Thiamethoxam	Insecticide	Not Approved
Thiencarbazone-methyl	Herbicide	Approved
Thiophanate-methyl	Fungicide	Not Approved
Tolylfluanid	Fungicide	Not Approved
Tolylfluanid metabolite DMST	Fungicide (metabolite)	
Tri-allate	Herbicide	Approved
Tricyclazole	Fungicide	Not Approved
Trifloxystrobin	Fungicide	Approved
Trifloxystrobin metabolite CGA 321113	Fungicide (metabolite)	
Valifenalat	Fungicide	Approved
Zoxamid	Fungicide	Approved

3. Pesticide residues in environment samples

In order to evaluate the exposure of the different environment compartments to PPP and assess the effects of PPP exposure to environmental health we collected at each CSS different environmental samples, which are shown in Figure 2.

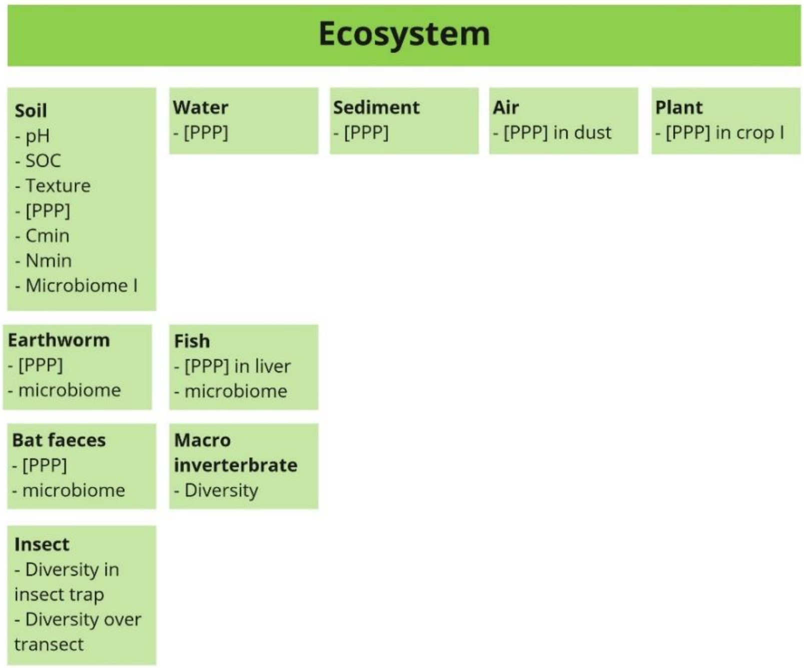

Figure 2: Overview of all types of environmental samples collected at each CSS together with all the parameters that will be analyzed for each matrix.

We present the results of the PPP concentrations in soil, sediment, water, outdoor air/dust in this report. Analysis of indoor dust, plants, earthworms, bat and fish faeces are still in progress and cannot be presented here.

3.1. Pesticide residues in soils of all CSS.

In table 3.1 an overview is giving on all pesticide residues detected in soils of the 11 CSS. A total of 92 different compounds were detected in the soils, with 86 compounds detected in soils of conventional farms and 35 compounds detected for soils of organic farms. We present the frequency, median and 5 and 95% percentile per farming system and a total overview. A colour gradient in table 3.1 allows to visualize compounds with highest frequency, median and highest 5 % and 95 % percentile concentrations (see tab 3.1).

Since the residue analysis will be used for the selection of the PPPs to be used in the (eco)toxicological tests (WP4), we present here as well the 10 most frequent PPPs and the 10 with the highest concentrations. In table 3.2 the 10 pesticide residues with the highest frequencies considering all CSS are presented. In table 3.3 the 10 pesticide residues with the highest concentrations (median) considering all CSS, and table 3.4 shows the 10 pesticide residues with the highest 95% percentile concentrations in soil samples of all CSS.

The main metabolite of Glyphosate (approved a.S.), AMPA is present in table 3.2, 3.3, and 3.4 thus it was one of the 10 most detected compound, with the highest median and the second highest 95 percentile. The stabile metabolite of DDT (banned in the EU in the 1970ies) DDT p,p' was one of the 10 most detected compound with the highest 95 percentile. Captan (approved a.S.) was detected in the second most amount of soil samples and has one of the ten highest median.

Table 3.1: The pesticide residues detected in soils of all CSS. Pesticide residues are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues < LOQ were not included in median and percentile calculation. Compounds that were not analyzed or detected are not shown in this table. The colour scale in the table is a 3-colour scale with white for lowest values, yellow for 50% percentile and dark red for the highest value. The colour scale was applied to the frequency, the median and the 5 % and 95 % percentile concentrations. (Met.= metabolite).

		Total					Conventional					Organic				
PPP Compound	Type of PPP	N	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
Glyphosate	Herbicide	113	8.0	167.0	70.7	740.0	55	16.4	167.0	70.7	740.0	58	0.0	-	-	-
AMPA (Met.)	Herbicide	113	21.2	250.3	63.9	1236.6	55	36.4	333.0	63.0	1289.2	58	6.9	71.3	68.7	102.3
Acetamiprid (Met.)	Insecticide	199	3.0	15.4	8.5	97.8	98	6.1	15.4	8.5	97.8	101	0.0	-	-	-
Ametoctradin	Fungicide	199	2.0	44.9	19.1	140.4	98	4.1	44.9	19.1	140.4	101	0.0	-	-	-
Azoxystrobin	Fungicide	199	11.1	23.3	6.6	182.0	98	22.4	23.3	6.6	182.0	101	0.0	-	-	-
Bixafen	Fungicide	199	5.5	16.8	8.9	41.9	98	10.2	16.8	8.8	42.5	101	1.0	10.0	10.0	10.0
Boscalid	Fungicide	199	22.6	24.4	6.9	237.2	98	32.7	29.7	7.1	317.2	101	12.9	16.7	8.1	43.5
Captan THPI (Met.)	Fungicide	199	95.0	118.3	74.4	311.6	98	92.9	116.3	76.4	322.8	101	97.0	122.0	73.2	274.7
Carbendazim (Met.)*	Fungicide	199	3.0	15.4	3.4	72.3	98	6.1	15.4	3.4	72.3	101	0.0	-	-	-
Chlorantraniliprole	Insecticide	199	7.0	16.0	7.2	89.2	98	12.2	16.0	7.0	94.5	101	2.0	22.4	9.9	34.9
Chlorotoluron	Herbicide	199	0.5	14.6	14.6	14.6	98	1.0	14.6	14.6	14.6	101	0.0	-	-	-
Chlorpyrifos*	Insecticide	199	32.7	1.2	0.1	93.6	98	39.8	6.5	0.1	117.8	101	25.7	0.5	0.1	41.9
Chlorpyrifos-methyl*	Insecticide	199	0.5	6.3	6.3	6.3	98	0.0	-	-	-	101	1.0	6.3	6.3	6.3
cyflufenamide	Fungicide	199	1.0	4.1	4.0	4.3	98	2.0	4.1	4.0	4.3	101	0.0	-	-	-
cymoxanil	Fungicide	199	2.0	8.8	6.4	12.1	98	4.1	8.8	6.4	12.1	101	0.0	-	-	-
Cyprodinil	Fungicide	199	2.0	68.9	8.9	194.3	98	4.1	68.9	8.9	194.3	101	0.0	-	-	-
DDD o,p'*(Met.)	insecticide	199	2.0	13.9	10.4	51.7	98	3.1	12.3	10.3	53.5	101	1.0	15.4	15.4	15.4
DDD p,p'*(Met.)	insecticide	199	16.6	3.3	0.9	49.6	98	22.4	3.6	0.8	59.5	101	10.9	2.8	1.2	23.2
DDE p,p'*(Met.)	insecticide	199	95.5	4.0	0.3	256.8	98	92.9	5.8	0.4	707.2	101	98.0	3.4	0.2	148.2

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DDE, o,p'*(Met.)	insecticide	199	7.0	1.6	0.5	19.4	98	9.2	1.1	0.6	26.0	101	5.0	1.8	0.4	7.8
DDT o,p'*	insecticide	199	18.6	5.0	0.7	138.4	98	22.4	6.7	0.7	140.2	101	14.9	2.7	1.1	52.4
DDT p,p'*	insecticide	199	25.6	58.9	2.4	2840.9	98	24.5	124.4	6.4	3724.0	101	26.7	45.1	2.1	1137.9
Deltamethrin	insecticide	199	2.0	25.2	14.9	34.0	98	4.1	25.2	14.9	34.0	101	0.0	-	-	-
Dieldrin*	insecticide	199	5.5	41.8	11.9	1213.8	98	5.1	27.6	17.0	94.8	101	5.9	1078.3	10.6	1262.1
Difenoconazole	Fungicide	199	7.5	9.7	4.6	120.3	98	14.3	10.4	4.4	133.8	101	1.0	8.9	8.9	8.9
Diflufenican	Herbicide	199	6.5	11.8	5.6	23.3	98	13.3	11.8	5.6	23.3	101	0.0	-	-	-
Diflufenican AE-B107137 (Met.)	Herbicide	199	0.5	6.8	6.8	6.8	98	1.0	6.8	6.8	6.8	101	0.0	-	-	-
Dimethenamid (P)	Herbicide	199	0.5	21.1	21.1	21.1	98	1.0	21.1	21.1	21.1	101	0.0	-	-	-
Dimethoate*	insecticide	199	0.5	5.0	5.0	5.0	98	1.0	5.0	5.0	5.0	101	0.0	-	-	-
Dimethomorph	Fungicide	199	8.5	64.3	7.3	322.0	98	15.3	56.9	7.2	327.2	101	2.0	188.3	83.4	293.1
Dimoxystrobin	Fungicide	199	1.0	16.5	12.8	20.2	98	2.0	16.5	12.8	20.2	101	0.0	-	-	-
emamectin	insecticide	199	0.5	5.1	5.1	5.1	98	1.0	5.1	5.1	5.1	101	0.0	-	-	-
Epoxiconazole*	Fungicide	199	7.0	24.0	6.1	32.2	98	11.2	25.5	16.8	34.0	101	3.0	6.4	5.6	7.1
Esfenvalerate	insecticide	199	2.5	16.3	9.8	119.8	98	5.1	16.3	9.8	119.8	101	0.0	-	-	-
fenbuconazole	Fungicide	199	1.5	12.8	9.1	21.3	98	3.1	12.8	9.1	21.3	101	0.0	-	-	-
Fenpropidin	Fungicide	199	0.5	12.2	12.2	12.2	98	0.0	-	-	-	101	1.0	12.2	12.2	12.2
Fenpropimorph*	Fungicide	199	0.5	7.0	7.0	7.0	98	0.0	-	-	-	101	1.0	7.0	7.0	7.0
Fenvalerate*	insecticide	199	2.0	33.8	8.0	73.8	98	4.1	33.8	8.0	73.8	101	0.0	-	-	-
Fludioxonil	Fungicide	148	2.0	72.7	14.6	156.6	71	4.2	72.7	14.6	156.6	77	0	-	-	-
Fluopicolide	Fungicide	199	10.0	26.4	6.5	116.1	98	18.4	26.4	6.3	116.6	101	2.0	25.0	20.4	29.6
Fluopyram	Fungicide	199	7.0	10.0	7.1	31.7	98	13.3	10.8	7.1	31.7	101	1.0	7.9	7.9	7.9
Fluoxastrobin	Fungicide	199	0.5	5.7	5.7	5.7	98	1.0	5.7	5.7	5.7	101	0.0	-	-	-
Flupyradifurone	insecticide	199	0.5	6.8	6.8	6.8	98	1.0	6.8	6.8	6.8	101	0.0	-	-	-
Fluxapyroxad	Fungicide	199	4.0	8.1	5.3	65.5	98	8.2	8.1	5.3	65.5	101	0.0	-	-	-
Hexachlorobenzene*	Fungicide	199	41.7	4.0	0.3	18.1	98	40.8	3.8	0.3	16.3	101	42.6	4.3	0.3	18.1
Imidacloprid	Insecticide	199	1.5	26.9	7.2	27.7	98	3.1	26.9	7.2	27.7	101	0.0	-	-	-
Imidacloprid (desnitro-) (Met.)	Insecticide	199	2.5	8.2	3.9	10.3	98	5.1	8.2	3.9	10.3	101	0.0	-	-	-

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Indoxacarb	Insecticide	199	2.0	9.5	5.8	11.4	98	4.1	9.5	5.8	11.4	101	0.0	-	-	-
iprovalicarb	Fungicide	199	1.0	173.9	116.0	231.9	98	2.0	173.9	116.0	231.9	101	0.0	-	-	-
lambda-Cyhalothrin	Insecticide	199	12.6	5.8	0.7	41.7	98	22.4	7.8	0.5	42.8	101	3.0	2.4	1.6	2.9
Mandipropamid	Fungicide	199	7.5	22.9	12.8	280.6	98	15.3	22.9	12.8	280.6	101	0.0	-	-	-
Mecoprop (P)	Herbicide	199	0.5	14.9	14.9	14.9	98	1.0	14.9	14.9	14.9	101	0.0	-	-	-
Meptyldinocap phenol (Met.)	Fungicide	148	0.7	6.0	6.0	6.0	71	0	-	-	-	77	1.3	6.0	6.0	6.0
Metalaxyl (M)	Fungicide	199	9.0	34.2	7.2	166.1	98	15.3	35.0	7.1	195.4	101	3.0	21.5	21.4	37.0
Metazachlor	Herbicide	199	0.5	135.0	135.0	135.0	98	1.0	135.0	135.0	135.0	101	0.0	-	-	-
Metconazole	Fungicide	199	2.5	6.7	5.5	10.8	98	5.1	6.7	5.5	10.8	101	0.0	-	-	-
Metobromuron	Herbicide	199	1.5	182.6	88.4	205.4	98	3.1	182.6	88.4	205.4	101	0.0	-	-	-
Metolachlor (S)	Herbicide	199	2.5	40.5	12.3	91.5	98	4.1	65.3	14.5	91.6	101	1.0	22.0	22.0	22.0
Metolachlor ethane sulfonic acid (Met.)	Herbicide	199	1.0	7.1	6.1	8.1	98	2.0	7.1	6.1	8.1	101	0.0	-	-	-
Metolachlor oxanilic acid (Met.)	Herbicide	199	8.5	35.7	16.3	187.5	98	14.3	36.6	14.4	221.4	101	3.0	22.3	21.5	35.2
Metrafenone	Fungicide	199	7.0	22.9	6.1	90.6	98	13.3	28.5	6.1	91.9	101	1.0	6.4	6.4	6.4
Metribuzin	Herbicide	199	3.0	39.6	15.4	90.2	98	6.1	39.6	15.4	90.2	101	0.0	-	-	-
Myclobutanil	Fungicide	199	1.0	8.4	6.0	10.8	98	2.0	8.4	6.0	10.8	101	0.0	-	-	-
Oxyfluorfen	Herbicide	199	3.5	46.9	32.0	344.6	98	6.1	135.5	31.7	349.1	101	1.0	46.4	46.4	46.4
penconazole	Fungicide	199	3.0	16.5	7.8	107.5	98	6.1	16.5	7.8	107.5	101	0.0	-	-	-
Pendimethalin	Herbicide	199	4.5	48.7	8.0	431.1	98	9.2	48.7	8.0	431.1	101	0.0	-	-	-
Phosmet	Insecticide	199	0.5	5.9	5.9	5.9	98	1.0	5.9	5.9	5.9	101	0.0	-	-	-
Pirimicarb	Insecticide	199	1.0	70.6	27.4	113.7	98	2.0	70.6	27.4	113.7	101	0.0	-	-	-
Prochloraz	Fungicide	199	0.5	9.7	9.7	9.7	98	1.0	9.7	9.7	9.7	101	0.0	-	-	-
Prochloraz BTS 44595	Fungicide	199	5.5	15.8	7.4	35.2	98	9.2	15.8	7.2	35.6	101	2.0	16.6	13.4	19.8
Propamocarb	Fungicide	199	1.0	123.1	92.0	154.2	98	1.0	157.7	157.7	157.7	101	1.0	88.5	88.5	88.5
Propiconazole*	Fungicide	199	1.0	7.2	6.6	7.9	98	2.0	7.2	6.6	7.9	101	0.0	-	-	-
Propyzamide	Herbicide	199	1.0	13.3	10.4	16.2	98	1.0	10.1	10.1	10.1	101	1.0	16.6	16.6	16.6
Prosulfocarb	Herbicide	199	1.5	62.6	39.0	656.9	98	3.1	62.6	39.0	656.9	101	0.0	-	-	-

Prothioconazole desthio (Met.)	Fungicide	199	1.0	5.7	5.3	6.2	98	2.0	5.7	5.3	6.2	101	0.0	-	-	-
Pyraclostrobin	Fungicide	199	1.0	14.3	6.7	21.9	98	2.0	14.3	6.7	21.9	101	0.0	-	-	-
Pyrimethanil	Fungicide	199	0.5	33.5	33.5	33.5	98	1.0	33.5	33.5	33.5	101	0.0	-	-	-
Pyriofenone	Fungicide	199	1.0	8.4	5.9	10.8	98	2.0	8.4	5.9	10.8	101	0.0	-	-	-
Spinosyn A	Insecticide	199	0.5	54.1	54.1	54.1	98	0.0	-	-	-	101	1.0	54.1	54.1	54.1
Spinosyn D	Insecticide	199	0.5	12.7	12.7	12.7	98	0.0	-	-	-	101	1.0	12.7	12.7	12.7
Spirotetramat	Insecticide	199	1.0	7.0	6.8	7.3	98	2.0	7.0	6.8	7.3	101	0.0	-	-	-
Spirotetramat-keto-hydroxy (Met.)	Insecticide	199	1.5	7.5	5.6	14.4	98	3.1	7.5	5.6	14.4	101	0.0	-	-	-
Spiroxamine	Fungicide	199	3.0	7.1	5.5	29.6	98	6.1	7.1	5.5	29.6	101	0.0	-	-	-
tau-Fluvalinate	Insecticide	199	0.5	14.5	14.5	14.5	98	1.0	14.5	14.5	14.5	101	0.0	-	-	-
Tebuconazole	Fungicide	199	15.6	23.5	7.0	98.9	98	26.5	26.0	6.9	88.1	101	5.0	13.3	9.0	277.7
Terbuthylazine	Herbicide	199	1.0	8.6	7.1	10.1	98	2.0	8.6	7.1	10.1	101	0.0	-	-	-
Terbuthylazine-desethyl (Met.)	Herbicide	199	0.5	5.7	5.7	5.7	98	1.0	5.7	5.7	5.7	101	0.0	-	-	-
Tetraconazole	Fungicide	199	1.5	11.4	8.6	19.0	98	3.1	11.4	8.6	19.0	101	0.0	-	-	-
Thiencarbazone-methyl	Herbicide	199	0.5	43.5	43.5	43.5	98	1.0	43.5	43.5	43.5	101	0.0	-	-	-
Thiophanate-methyl*	Fungicide	199	0.5	159.7	159.7	159.7	98	1.0	159.7	159.7	159.7	101	0.0	-	-	-
Trifloxystrobin	Fungicide	199	1.0	9.9	9.6	10.2	98	2.0	9.9	9.6	10.2	101	0.0	-	-	-
zoxamid	Fungicide	199	2.5	34.9	15.8	60.1	98	5.1	34.9	15.8	60.1	101	0.0	-	-	-
Total amount of PPP compound detected			**92**					**86**					**35**			

*Not approved compounds according to Approval status EC Reg. No (1107/2009). [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.2: The 10 pesticide residues detected with the highest frequencies considering all CSS (both conventional and organic farms). The approval status of each compound is given according to the Approval status EC Reg. No (1107/2009). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
DDE p,p'	Insecticide	Not Approved	199	95.5	4.00	0.30	257
captan THPI (Met.)	Fungicide	*Approved*	199	95.0	118	74.4	312
Hexachlorobenzene	Fungicide	Not Approved	199	41.7	4.00	0.30	18.1
Chlorpyrifos	Insecticide	Not Approved	199	32.7	1.20	0.10	93.6
DDT p,p'	Insecticide	Not Approved	199	25.6	59.0	2.40	2841
Boscalid	Fungicide	Approved	199	22.6	24.4	6.90	237
AMPA	Herbicide	Approved	113	21.2	250.3	63.9	1237
DDT o,p'	Insecticide	Not Approved	199	18.6	5.00	0.70	138
DDD p,p' (Met.)	Insecticide	*Not Approved*	199	16.6	3.30	0.90	49.6
Tebuconazole	Fungicide	Approved	199	15.6	23.5	7.00	98.9

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.3: The 10 pesticide residues with the highest median concentrations in soils considering all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
AMPA (Met.)	Herbicide	*Approved*	113	21.2	250	63.9	1237
Metobromuron	Herbicide	Approved	199	1.49	183	88.4	205
Iprovalicarb	Fungicide	Approved	199	1.00	174	116	232
Glyphosate	Herbicide	Approved	113	7.96	167	70.7	740
Thiophanate-methyl	Fungicide	Not Approved	199	0.50	160	160	160
Metazachlor	Herbicide	Approved	199	0.50	135	135	135
Propamocarb	Fungicide	Approved	199	1.00	123	92.0	154
Captan THPI (Met.)	Fungicide	*Approved*	199	95.0	118	74.4	312
Fludioxonil	Fungicide	Approved	148	2.03	72.7	14.6	157
Pirimicarb	Insecticide	Approved	199	1.00	70.6	27.4	114

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

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Table 3.4: The 10 pesticide residues with the highest concentrations in soil samples (p95) of all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
DDT p,p'	insecticide	Not Approved	199	25.6	58.9	2.40	2841
AMPA (Met.)	Herbicide	*Approved*	113	21.2	250	63.9	1237
Dieldrin	Insecticide	Not Approved	199	5.53	41.8	11.9	1214
Glyphosate	Herbicide	Approved	113	7.96	167	70.7	740
Prosulfocarb	Herbicide	Approved	199	1.49	62.6	39.0	657
Pendimethalin	Herbicide	Approved	199	4.48	48.7	7.99	431
Oxyfluorfen	Herbicide	Approved	199	3.48	46.9	32.0	345
Dimethomorph	Fungicide	Approved	199	8.54	64.3	7.31	322
Mandipropamid	Fungicide	Approved	199	7.46	22.9	12.8	281
iprovalicarb	Fungicide	Approved	199	1.00	174	116.0	232

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

3.2. Pesticide residues in surface waters of all CSS.

Table 3.5 gives an overview of all pesticide residues detected in surface waters of the 11 CSS. A total of 89 different compounds were detected in the surface waters with 80 compounds detected in surface waters of conventional farms and 56 compounds detected for surface waters of organic farms. We present the frequency, median and 5 and 95% percentile per farming system and a total overview. A colour gradient in table 3.5 allows to visualize compounds with highest frequency, median and highest 5 % and 95 % percentile concentrations (see tab 3.5).

From tables 3.6, 3.7 and 3.8 can be seen that lindane (not approved a.S.) was the most detected compound in surface water samples. Spinosyn A (approved a.S.) and Azoxystrobin-O-desmethyl were the compounds with the highest median in surface waters. The compound with the highest 95 percentile was metolachlor (approved a.S.).

Glyphosate (approved a.S.) and its metabolite were present in tables 3.6, 3.7 (AMPA not present in this table) and 3.8, thus they were one of the 10 most detected compounds, with the highest median and the second highest 95 percentile.

Table 3.5: The pesticide residues detected in surface waters of all CSS. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues < LOQ were not included in median and percentile calculation. Compounds that were not analyzed or detected are not shown in this table. The colour scale in the table is a 3-colour scale with white for lowest values, yellow for 50% percentile and dark red for the highest value. The colour scale was applied to the frequency, the median and the 5 % and 95 % percentile concentrations. (Met.= metabolite).

		Total					Conventional					Organic				
PPP Compound	**Type of PPP**	**n**	**% > LOQ**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% > LOQ**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% > LOQ**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
Glyphosate	Herbicide	62	72.6	158.3	25.6	1206.3	35	71.4	174.4	83.4	1658.5	27	74.1	141.499	10.501	779.3
AMPA (Met.)	Herbicide	62	30.6	131.0	68.0	624.0	35	37.1	112.5	48.8	745.2	27	22.2	133.6	116.0	184.6
2,4-D (free)	Herbicide	63	11.11111	82.1272	15.49	251.35	36	11.1111	87.0664	21.1802	243.196	27	11.1111	58.8169	30.471	193.2
Acetamiprid (Met.)	Insecticide	63	6.3	53.1	16.7	89.3	36	8.3	24.6	16.2	75.9	27	3.7	90.7135	90.713	90.71
Ametoctradin	Fungicide	63	1.6	6.0	6.0	6.0	36	0.0	-	-	-	27	3.7	5.97629	5.9763	5.976
Atrazine*	Herbicide	63	17.5	12.5259	4.986	286.18	36	11.1	108.203	14.2269	253.648	27	25.9	11.7614	4.9742	231.3
Azoxystrobin	Fungicide	63	23.8	13.7	5.8	93.3	36	22.2	11.0	5.5	127.0	27	25.9	13.6912	9.1408	17.66
Azoxystrobin-O-demethyl (Met.)	Fungicide	63	4.8	193.276	152.4	209.13	36	5.6	179.381	151.024	207.737	27	3.7	193.276	193.28	193.3
Bentazone	Herbicide	63	14.3	13.6732	5.248	59.441	36	19.4444	12.3033	5.23956	63.4685	27	7.40741	18.8251	14.188	23.46
Bifenthrin*	Insecticide	61	1.6	3.06286	3.063	3.0629	35	0.0	-	-	-	26	3.8	3.06286	3.0629	3.063
Boscalid	Fungicide	63	6.3	41.8	20.7	782.1	36	11.1	41.8	20.7	782.1	27	0.0	-	-	-
Carbendazim (Met.)*	Fungicide	63	6.3	7.8	5.3	10.9	36	8.3	9.1	5.5	11.0	27	3.7	6.5803	6.5803	6.58
Chlorantraniliprole	Insecticide	63	12.7	8.4	5.2	74.1	36	13.9	7.6	5.2	85.3	27	11.1	9.2	5.8	10.8
Chlorotoluron	Herbicide	63	1.6	37.8	37.8	37.8	36	0.0	-	-	-	27	3.7	37.8089	37.809	37.81
Chlorpropham	Herbicide	61	1.639344	12.173	12.17	12.173	35	2.85714	12.173	12.173	12.173	26	0	-	-	-
Clomazone	Herbicide	63	3.2	10.7553	5.694	15.816	36	5.6	10.7553	5.69413	15.8165	27	0.0	-	-	-
Clothianidin	Insecticide	63	1.6	71.6041	71.6	71.604	36	2.8	71.6041	71.6041	71.6041	27	0.0	-	-	-
Cyflufenamide	Fungicide	63	3.2	5.3	5.0	5.5	36	2.8	5.6	5.6	5.6	27	3.7	5.01532	5.0153	5.015
Cyproconazole	Fungicide	63	4.8	10.4451	8.46	29.188	36	2.8	8.23891	8.23891	8.23891	27	7.4	20.8576	11.486	30.23
DDE p,p'*(Met.)	insecticide	62	1.6	0.0	0.0	0.0	35	0.0	-	-	-	27	3.7	0.0	0.0	0.0

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Dieldrin*	insecticide	62	1.6	1.2	1.2	1.2	35	2.9	1.2	1.2	1.2	27	0.0	-	-	-
Difenoconazole	Fungicide	63	1.6	29.0	29.0	29.0	36	2.8	29.0	29.0	29.0	27	0.0	-	-	-
Dimethenamid (P)	Herbicide	63	1.6	126.8	126.8	126.8	36	2.8	126.8	126.8	126.8	27	0.0	-	-	-
Dimethoate*	insecticide	63	3.2	7.5	5.4	9.6	36	2.8	9.8	9.8	9.8	27	3.7	5.21347	5.2135	5.213
Dimethomorph	Fungicide	63	25.4	27.6	13.9	111.1	36	33.3	27.6	11.7	112.0	27	14.8	31.4	24.4	40.6
Diuron*	Herbicide	63	7.9	19.1666	12.04	42.834	36	11.1	26.3156	11.7003	43.3127	27	3.7	19.1666	19.167	19.17
Epoxiconazole*	Fungicide	63	4.8	7.0	5.3	8.9	36	2.8	9.1	9.1	9.1	27	7.4	6.1	5.2	6.9
Ethofumesate	Herbicide	63	6.3	76.9809	32.14	210.46	36	11.1	76.9809	32.1409	210.455	27	0.0	-	-	-
Fenbuconazole	Fungicide	63	3.2	9.2	5.8	12.5	36	2.8	12.9	12.9	12.9	27	3.7	5.44987	5.4499	5.45
Fenhexamid	Fungicide	63	1.6	121.585	121.6	121.58	36	2.8	121.585	121.585	121.585	27	0.0	-	-	-
Flazasulfuron	Herbicide	63	1.6	6.72015	6.72	6.7202	36	2.8	6.72015	6.72015	6.72015	27	0.0	-	-	-
Fluazifop (P) (only free)	Herbicide	63	1.6	17.5211	17.52	17.521	36	2.77778	17.5211	17.5211	17.5211	27	0	-	-	-
Fludioxonil	Fungicide	63	11.1	11.9	6.5	106.7	36	13.9	13.5	9.4	118.2	27	7.40741	7.58278	5.7833	9.382
Fluopicolide	Fungicide	63	27.0	23.5	8.2	164.0	36	38.9	22.9	8.0	187.3	27	11.1	63.0	17.9	72.6
Fluopyram	Fungicide	63	20.6	12.7	5.1	30.4	36	25.0	9.7	6.2	28.9	27	14.8	12.8	6.3	26.9
Fluopyram benzamide (Met.)	Fungicide	63	1.6	126.279	126.3	126.28	36	2.8	126.279	126.279	126.279	27	0.0	-	-	-
Flupyradifurone	insecticide	63	1.6	8.7	8.7	8.7	36	2.8	8.7	8.7	8.7	27	0.0	-	-	-
Fluroxypyr (only free)	Herbicide	63	1.6	109.204	109.2	109.2	36	0	-	-	-	27	3.7037	109.204	109.2	109.2
Flutolanil	Fungicide	63	3.2	37.4699	33.09	41.855	36	5.6	37.4699	33.0851	41.8547	27	0.0	-	-	-
Fluxapyroxad	Fungicide	63	4.8	24.9	8.8	26.2	36	5.6	16.6	7.9	25.4	27	3.7	24.9203	24.92	24.92
Haloxyfop-P (Haloxyfop-R) (free)*	Herbicide	63	1.587302	116.36	116.4	116.36	36	0	-	-	-	27	3.7037	116.36	116.36	116.4
Imidacloprid (desnitro-) (Met.)	Insecticide	63	3.2	7.9	6.1	9.6	36	5.6	7.9	6.1	9.6	27	0.0	-	-	-
Iprovalicarb	Fungicide	63	6.3	21.9	7.2	41.9	36	5.6	26.1	10.8	41.4	27	7.4	20.8192	8.2615	33.38
Isoxaben	Herbicide	63	1.6	8.90447	8.904	8.9045	36	2.8	8.90447	8.90447	8.90447	27	0.0	-	-	-
Lindane (gamma-HCH)*	Insecticide	62	79.0	0.694	0.528	1.7706	35	82.9	0.7608	0.52824	1.78568	27	74.1	0.6586	0.5383	1.11
Mandipropamid	Fungicide	63	6.3	9.2	7.1	11.4	36	11.1	9.2	7.1	11.4	27	0.0	-	-	-

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MCPA	Herbicide	63	15.9	38.6491	11.43	120.94	36	16.7	29.4874	10.2626	129.106	27	14.8148	63.9083	21.042	90.71
Mecoprop (P)	Herbicide	63	4.8	20.1	9.5	37.5	36	5.6	23.9	9.9	37.9	27	3.7	20.1079	20.108	20.11
Metalaxyl (M)	Fungicide	63	20.6	15.1	6.4	181.5	36	33.3	15.2	6.4	189.6	27	3.7	15.1	15.1	15.1
Metalaxyl Metabolite CGA 62826 (87764-37-2) (Met.)	Fungicide	63	17.5	15.297	8.485	179.14	36	22.2	16.7772	9.03781	217.69	27	11.1	11.8352	10.657	16.89
Metamitron-desamino (Met.)	Herbicide	63	4.8	35.5454	27.81	63.823	36	5.6	51.2551	37.1164	65.3939	27	3.7	26.9534	26.953	26.95
Metconazole	Fungicide	63	1.6	5.0	5.0	5.0	36	2.8	5.0	5.0	5.0	27	0.0	-	-	-
Methiocarb*	Insecticide	63	1.6	17.8204	17.82	17.82	36	2.8	17.8204	17.8204	17.8204	27	0.0	-	-	-
Methiocarb sulfon	Insecticide	63	1.6	5.74092	5.741	5.7409	36	0.0	-	-	-	27	3.7	5.74092	5.7409	5.741
Methoxyfenozide	Insecticide	63	3.2	8.3729	5.783	10.963	36	2.8	11.2505	11.2505	11.2505	27	3.7	5.49529	5.4953	5.495
Metobromuron	Herbicide	63	3.2	55.3	36.9	73.6	36	5.6	55.3	36.9	73.6	27	0.0	-	-	-
Metolachlor (S)	Herbicide	63	14.3	25.6	8.7	2938.2	36	13.9	51.5	24.9	3894.6	27	14.8	15.6	8.1	25.0
Metolachlor oxanilic acid (Met.)	Herbicide	63	3.2	39.1	36.4	41.8	36	5.6	39.1	36.4	41.8	27	0.0	-	-	-
Metrafenone	Fungicide	63	7.9	13.4	11.1	64.9	36	11.1	17.1	11.1	67.6	27	3.7	12.6	12.6	12.6
Metribuzin	Herbicide	63	7.9	19.3	7.1	49.2	36	11.1	34.2	13.3	49.2	27	3.7	5.79124	5.7912	5.791
Metsulfuron-methyl	Herbicide	63	3.2	5.86062	5.168	6.5537	36	2.8	6.63072	6.63072	6.63072	27	3.7	5.09053	5.0905	5.091
Myclobutanil	Fungicide	63	4.8	7.8	6.5	18.4	36	5.6	7.1	6.5	7.8	27	3.7	19.5834	19.583	19.58
Nicosulfuron	Herbicide	63	4.8	8.27603	5.939	10.516	36	8.3	8.27603	5.93882	10.5159	27	0.0	-	-	-
Oxadixyl*	Fungicide	63	3.2	14.0835	9.655	18.512	36	0.0	-	-	-	27	7.4	14.0835	9.6549	18.51
Penconazole	Fungicide	63	6.3	9.7	6.0	35.6	36	11.1	9.7	6.0	35.6	27	0.0	-	-	-
Pencycuron	Fungicide	63	4.8	18.1176	3.278	30.194	36	8.3	18.1176	3.2778	30.1943	27	0.0	-	-	-
Pendimethalin	Herbicide	63	9.5	11.1	5.6	16.4	36	5.6	11.5	6.6	16.3	27	14.8	11.0615	6.0757	14.5
Piperonyl butoxide	Insecticide	63	4.8	15.3619	14.22	27.15	36	5.6	21.2743	14.8075	27.7411	27	3.7	15.3619	15.362	15.36
Pirimicarb	Insecticide	63	1.6	30.3	30.3	30.3	36	2.8	30.3	30.3	30.3	27	0.0	-	-	-
Propamocarb	Fungicide	63	3.2	48.6	33.3	64.0	36	5.6	48.6	33.3	64.0	27	0.0	-	-	-
Propiconazole*	Fungicide	63	4.8	7.9	5.6	30.1	36	8.3	7.9	5.6	30.1	27	0.0	-	-	-

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Propoxur*	Insecticide	63	3.2	9.6488	5.761	13.536	36	5.6	9.6488	5.76149	13.5361	27	0.0	-	-	-
Propyzamide	Herbicide	63	1.6	8.4	8.4	8.4	36	2.8	8.4	8.4	8.4	27	0.0	-	-	-
Prosulfocarb	Herbicide	63	1.6	6.0	6.0	6.0	36	2.8	6.0	6.0	6.0	27	0.0	-	-	-
Prothioconazole	Fungicide	63	9.52381	22.6547	12.04	40.141	36	8.33333	21.7919	11.5831	43.0498	27	11.1111	23.5174	17.483	24.25
Prothioconazole desthio (Met.)	Fungicide	63	9.5	16.3	13.0	35.3	36	11.1	19.4	13.9	36.7	27	7.4	15.7342	13.05	18.42
Pyrimethanil	Fungicide	63	14.3	11.0	7.1	38.9	36	13.9	11.0	8.9	34.0	27	14.8	11.8223	6.7827	37.04
Spinetoram	Insecticide	63	1.6	132.042	132	132.04	36	2.8	132.042	132.042	132.042	27	0.0	-	-	-
Spinosyn A	Insecticide	63	1.6	280.3	280.3	280.3	36	2.8	280.288	280.288	280.288	27	0.0	-	-	-
Spinosyn D	Insecticide	63	1.6	39.2	39.2	39.2	36	2.8	39.1994	39.1994	39.1994	27	0.0	-	-	-
Tebuconazole	Fungicide	63	27.0	14.8	5.0	46.2	36	41.7	14.8	4.9	48.1	27	7.4	19.7	7.3	32.0
Terbuthylazine	Herbicide	63	15.9	9.9	5.3	111.2	36	16.7	10.8	6.3	137.8	27	14.8	8.4263	5.8323	17.81
Terbuthylazine-desethyl (Met.)	Herbicide	63	27.0	14.5	5.2	71.2	36	22.2	31.5	6.3	69.0	27	33.3	12.9527	5.6292	66
Terbutryn*	Herbicide	63	1.6	11.2647	11.26	11.265	36	0.0	-	-	-	27	3.7	11.2647	11.265	11.26
Tetraconazole	Fungicide	63	3.2	7.8	7.5	8.1	36	2.8	7.5	7.5	7.5	27	3.7	8.12851	8.1285	8.129
Tetramethrin*	Insecticide	61	3.3	8.1434	7.196	9.0905	35	2.9	9.19575	9.19575	9.19575	26	3.8	7.09106	7.0911	7.091
Trifloxystrobin	Fungicide	63	6.3	5.7	5.1	7.2	36	5.6	6.5	5.7	7.4	27	7.4	5.36539	5.0287	5.702
Trifloxystrobin metabolite CGA 321113 (Met.)	Fungicide	63	22.2	15.086	6.595	97.422	36	22.2	23.9609	8.13231	137.174	27	22.2	9.24245	5.788	28.71
Zoxamid	Fungicide	63	4.8	19.5	14.5	28.2	36	2.8	29.1	29.1	29.1	27	7.4	16.7617	14.27	19.25
Total amount of PPP compound detected			**89**					**80**					**56**			

*Not approved compounds according to Approval status EC Reg. No (1107/2009). [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.6: The 10 pesticide residues detected in the highest amount of surface water samples for all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
Lindane (gamma-HCH)	Insecticide	not approved	62	79.0	0.7	0.5	1.8
Glyphosate	Herbicide	approved	62	72.6	158.3	25.6	1206.3
AMPA (Met.)	Herbicide	approved	62	58.1	42.4	2.1	556.8
Fluopicolide	Fungicide	approved	63	27.0	23.5	8.2	164.0
Tebuconazole	Fungicide	approved	63	27.0	14.8	5.0	46.2
Terbuthylazine-desethyl (Met.)	Herbicide	approved	63	27.0	14.5	5.2	71.2
Atrazine	Herbicide	not approved	63	27.0	6.2	1.8	276.9
Dimethomorph	Fungicide	approved	63	25.4	27.6	13.9	111.1
Azoxystrobin	Fungicide	approved	63	23.8	13.7	5.8	93.3
Trifloxystrobin	Fungicide	approved	63	22.2	15.1	6.6	97.4

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.7: The 10 pesticide residues with the highest median for all surface water samples of all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
Spinosyn A	Insecticide	approved	63	1.6	280.3	280.3	280.3
Azoxystrobin-O-demethyl (Met.)	Fungicide	approved	63	4.8	193.3	152.4	209.1
Glyphosate	Herbicide	approved	62	72.6	158.3	25.6	1206.3
Spinetoram	Insecticide	approved	63	1.6	132.0	132.0	132.0
Dimethenamid (P)	Herbicide	approved	63	1.6	126.8	126.8	126.8
Fluopyram benzamide (Met.)	Fungicide	approved	63	1.6	126.3	126.3	126.3
fenhexamid	Fungicide	approved	63	1.6	121.6	121.6	121.6
Haloxyfop-P (Haloxyfop-R) (free)	Herbicide	not approved	63	1.6	116.4	116.4	116.4
Fluroxypyr (only free)	Herbicide	approved	63	1.6	109.2	109.2	109.2
2,4-D (free)	Herbicide	approved	63	11.1	82.1	15.5	251.4

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.8: The 10 pesticide residues with the highest detected concentrations (p95) for all surface water samples of all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
Metolachlor (S)	Herbicide	approved	63	14.3	25.6	8.7	2938.2
Glyphosate	Herbicide	approved	62	72.6	158.3	25.6	1206.3
AMPA (Met.)	Herbicide	approved	62	58.1	42.4	2.1	556.8
Boscalid	Fungicide	approved	63	6.3	41.8	20.7	782.1
Metalaxyl	Fungicide	approved	63	17.5	15.3	8.5	179.1
Atrazine	Fungicide	not approved	63	27.0	6.2	1.8	276.9
Fluopicolide	Fungicide	approved	63	27.0	23.5	8.2	164.0
Spinosyn A	Insecticide	approved	63	1.6	280.3	280.3	280.3
Metalaxyl (M)	Fungicide	approved	63	20.6	15.1	6.4	181.5
2,4-D (free)	Herbicide	approved	63	11.1	82.1	15.5	251.4

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

3.3. Pesticide residues in sediments of all CSS.

In table 3.9 is given an overview of all pesticide residues that were detected in sediments of the 11 CSS. A total of 54 different compounds were detected in the sediments with 52 compounds detected in sediments of conventional farms and 10 compounds detected for surface waters of organic farms. We present the frequency, median and 5 and 95% percentile per farming system and a total overview. A colour gradient in table 3.5 allows to visualize compounds with highest frequency, median and highest 5 % and 95 % percentile concentrations (see tab 3.5).

Glyphosate (approved a.S.) and AMPA were the 2 compounds that were detected with the largest frequencies and highest 95 percentile concentrations in sediment samples. Cyprodinil (approved a.S.) and dicamba (approved a.S.) were the compounds with the highest median in sediment samples. The 2nd and 3rd compound with the highest 95 percentile were fludioxonil (approved a.S.) and difenoconazole (approved a.S.), respectively.

Table 3.9: The pesticide residues detected in sediments of all CSS. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues < LOQ were not included in median and percentile calculation. Compounds that were not analyzed or detected are not shown in this table. The colour scale in the table is a 3-colour scale with white for lowest values, yellow for 50% percentile and dark red for the highest value. The colour scale was applied to the frequency, the median and the 5 % and 95 % percentile concentrations. (Met.= metabolite)

PPP Compound	Type of PPP	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
Glyphosate	Herbicide	96	58.3	24.7	10.4	218.7	79	67.1	24.9	10.4	219.8	17	17.6	17.135	12.832	32.76
AMPA (Met.)	Herbicide	96	64.6	32.0	11.4	130.1	79	70.9	32.0	11.3	144.7	17	35.3	30.1	14.6	77.4
Ametoctradin	Fungicide	96	1.0	1.5	1.5	1.5	79	1.3	1.5	1.5	1.5	17	0.0	-	-	-
Azoxystrobin	Fungicide	96	10.4	1.4	1.0	20.2	79	12.7	1.4	1.0	20.2	17	0.0	-	-	-
Azoxystrobin-O-demethyl (Met.)	Fungicide	96	2.1	3.96	1.728	6.192	79	2.5	3.96	1.728	6.192	17	0.0	-	-	-
Bixafen	Fungicide	96	7.3	1.2	1.0	1.9	79	8.9	1.2	1.0	1.9	17	0.0	-	-	-
Boscalid	Fungicide	96	27.1	2.5	1.1	18.3	79	31.6	2.5	1.1	18.8	17	5.9	1.2	1.2	1.2
Carbendazim (Met.)*	Fungicide	96	2.1	5.3	1.7	8.8	79	2.5	5.3	1.7	8.8	17	0.0	-	-	-
Chloridazon*	Herbicide	96	2.1	1.565	1.066	2.0645	79	2.5	1.565	1.0655	2.0645	17	0.0	-	-	-
Chlorothalonil 4-hydroxy (Met.)	Fungicide	96	1.0	1.6	1.6	1.6	79	1.26582	1.6	1.6	1.6	17	0	-	-	-
Clomazone	Herbicide	96	1.0	1.14	1.14	1.14	79	1.3	1.14	1.14	1.14	17	0.0	-	-	-
Cyprodinil	Fungicide	96	2.1	83.8	32.0	135.6	79	2.5	83.8	32.0	135.6	17	0.0	-	-	-
Cyprodinil metabolite CGA304075 (Met.)	Fungicide	96	2.1	2.4	2.4	2.4	79	2.5	2.4	2.4	2.4	17	0.0	-	-	-
Dicamba	Herbicide	96	1.041667	83.32	83.32	83.32	79	1.26582	83.32	83.32	83.32	17	0	-	-	-
Difenoconazole	Fungicide	96	8.3	14.9	2.1	201.9	79	10.1	14.9	2.1	201.9	17	0.0	-	-	-
Diflufenican	Herbicide	96	13.5	1.4	1.0	6.6	79	15.2	1.6	1.0	6.9	17	5.9	1.08	1.08	1.08
Dimethomorph	Fungicide	96	9.4	2.0	1.1	12.3	79	10.1	2.1	1.1	12.6	17	5.9	1.3	1.3	1.3
Fenbuconazole	Fungicide	96	1.0	8.8	8.8	8.8	79	1.3	8.8	8.8	8.8	17	0.0	-	-	-
Fenhexamid	Fungicide	96	1.0	2.59	2.59	2.59	79	1.3	2.59	2.59	2.59	17	0.0	-	-	-
Fenpropidin	Fungicide	96	3.1	1.2	1.1	1.3	79	3.8	1.21	1.111	1.318	17	0.0	-	-	-

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Fenpropimorph*	Fungicide	96	4.2	1.6	1.4	2.1	79	5.1	1.55	1.3945	2.071	17	0.0	-	-	-
Fludioxonil	Fungicide	96	6.3	2.2	1.2	210.1	79	6.3	2.4	1.2	223.9	17	5.88235	2.03	2.03	2.03
Fluopicolide	Fungicide	96	18.8	2.0	1.0	3.5	79	21.5	1.8	1.0	3.6	17	5.9	2.2	2.2	2.2
Flupyradifurone	insecticide	96	1.0	2.7	2.7	2.7	79	0.0	-	-	-	17	5.9	2.7	2.7	2.7
Fluxapyroxad	Fungicide	96	4.2	1.2	1.0	5.4	79	5.1	1.2	1.0	5.4	17	0.0	-	-	-
Imazalil	Fungicide	96	17.7	4.64	1.448	13.44	79	21.5	4.64	1.448	13.44	17	0.0	-	-	-
Imidacloprid	Insecticide	96	2.1	1.8	1.2	2.4	79	0.0	-	-	-	17	11.8	1.79	1.214	2.366
Indoxacarb	Insecticide	96	1.0	2.9	2.9	2.9	79	1.3	2.9	2.9	2.9	17	0.0	-	-	-
Linuron*	Herbicide	96	1.0	1.1	1.1	1.1	79	1.3	1.1	1.1	1.1	17	0.0	-	-	-
Mandipropamid	Fungicide	96	1.0	9.2	9.2	9.2	79	1.3	9.2	9.2	9.2	17	0.0	-	-	-
Metalaxyl (M)	Fungicide	96	4.2	1.5	1.0	1.7	79	5.1	1.5	1.0	1.7	17	0.0	-	-	-
Metconazole	Fungicide	96	1.0	3.3	3.3	3.3	79	1.3	3.3	3.3	3.3	17	0.0	-	-	-
Methabenzthiazuron*	Herbicide	96	4.2	2.965	1.172	11.363	79	5.1	2.965	1.172	11.3625	17	0.0	-	-	-
Metrafenone	Fungicide	96	2.1	3.0	2.4	3.5	79	2.5	3.0	2.4	3.5	17	0.0	-	-	-
Metribuzin	Herbicide	96	1.0	2.3	2.3	2.3	79	1.3	2.3	2.3	2.3	17	0.0	-	-	-
Myclobutanil	Fungicide	96	2.1	1.6	1.3	1.8	79	1.3	1.8	1.8	1.8	17	5.9	1.3	1.3	1.3
Oxyfluorfen	Herbicide	96	2.1	2.4	1.8	2.9	79	2.5	2.4	1.8	2.9	17	0.0	-	-	-
Penconazole	Fungicide	96	1.0	10.4	10.4	10.4	79	1.3	10.4	10.4	10.4	17	0.0	-	-	-
Pencycuron	Fungicide	96	15.6	2.05	1.067	10.338	79	19.0	2.05	1.067	10.338	17	0.0	-	-	-
Pendimethalin	Herbicide	96	6.3	1.8	1.4	7.4	79	7.6	1.8	1.4	7.4	17	0.0	-	-	-
Prochloraz	Fungicide	96	3.1	3.1	2.0	3.1	79	3.8	3.1	2.0	3.1	17	0.0	-	-	-
Prothioconazole desthio (Met.)	Fungicide	96	6.3	1.6	1.1	2.6	79	7.6	1.6	1.1	2.6	17	0.0	-	-	-
Pymetrozine*	Insecticide	96	3.1	2.08	1.27	2.458	79	3.8	2.08	1.27	2.458	17	0.0	-	-	-
Pyrimethanil	Fungicide	96	2.1	1.9	1.3	2.6	79	2.5	1.9	1.3	2.6	17	0.0	-	-	-
Quinoxyfen*	Fungicide	96	1.0	4.8	4.8	4.8	79	1.3	4.8	4.8	4.8	17	0.0	-	-	-
Spinosyn A	Insecticide	96	1.0	20.2	20.2	20.2	79	1.3	20.2	20.2	20.2	17	0.0	-	-	-
Spinosyn D	Insecticide	96	1.0	6.8	6.8	6.8	79	1.3	6.8	6.8	6.8	17	0.0	-	-	-
Spirotetramat-keto-hydroxy (Met.)	Insecticide	96	1.0	10.8	10.8	10.8	79	1.3	10.8	10.8	10.8	17	0.0	-	-	-

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Spiroxamine	Fungicide	96	8.3	4.3	1.8	38.8	79	10.1	4.3	1.8	38.8	17	0.0	-	-	-
Tebuconazole	Fungicide	96	8.3	3.8	2.5	13.0	79	10.1	3.8	2.5	13.0	17	0.0	-	-	-
Terbuthylazine	Herbicide	96	1.0	1.3	1.3	1.3	79	1.3	1.3	1.3	1.3	17	0.0	-	-	-
Terbutryn*	Herbicide	96	3.1	2.22	1.311	2.499	79	3.8	2.22	1.311	2.499	17	0.0	-	-	-
Thiabendazole	Insecticide	96	3.1	6.71	6.584	12.083	79	3.8	6.71	6.584	12.083	17	0.0	-	-	-
Thiacloprid*	Insecticide	96	2.1	1.235	1.141	1.3295	79	2.5	1.235	1.1405	1.3295	17	0.0	-	-	-
Total amount of PPP compound detected			**54**					**52**					**10**			

*Not approved compounds according to Approval status EC Reg. No (1107/2009). [a]p5 = 5 % percentile; [b]p95 = 95 % percentile

Table 3.10: The 10 pesticide residues detected in the highest amount of sediment samples of all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
AMPA (Met.)	Herbicide		36	55.6	40.1	14.2	130.5
Glyphosate	Herbicide	approved	36	41.7	26.4	12.0	294.2
Boscalid	Fungicide	approved	36	25.0	3.8	1.2	23.0
Tebuconazole	Fungicide	approved	36	19.4	1.9	1.2	12.2
Fluopicolide	Fungicide	approved	36	19.4	2.2	1.0	4.5
Fludioxonil	Fungicide	approved	36	13.9	2.4	1.5	223.9
Spiroxamine	Fungicide	approved	36	11.1	15.7	2.0	41.8
Dimethomorph	Fungicide	approved	36	11.1	5.3	1.4	13.8
Azoxystrobin	Fungicide	approved	36	11.1	2.9	1.4	7.7
Difenoconazole	Fungicide	approved	36	8.3	24.7	12.6	270.0

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.11: The 10 pesticide residues with the highest median for sediment samples of all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
Cyprodinil	Fungicide	approved	36	5.6	83.8	32.0	135.6
Dicamba	Herbicide	approved	36	2.8	83.3	83.3	83.3
AMPA (Met.)	Herbicide		36	55.6	40.1	14.2	130.5
Glyphosate	Herbicide	approved	36	41.7	26.4	12.0	294.2
Difenoconazole	Fungicide	approved	36	8.3	24.7	12.6	270.0
Spinosyn A	Insecticide	approved	36	2.8	20.2	20.2	20.2
Spiroxamine	Fungicide	approved	36	11.1	15.7	2.0	41.8
Pencycuron	Fungicide	approved	36	2.8	13.5	13.5	13.5
Spirotetramat-keto-hydroxy (Met.)	Insecticide		36	2.8	10.8	10.8	10.8
Imazalil	Fungicide	approved	36	2.8	10.6	10.6	10.6

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.12: The 10 pesticide residues with the highest detected concentration for sediment samples of all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
Glyphosate	Herbicide	approved	36	41.7	26.4	12.0	294.2
AMPA	Herbicide	metabolite	36	55.6	40.1	14.2	130.5
Difenoconazole	Fungicide	approved	36	8.3	24.7	12.6	270.0
Fludioxonil	Fungicide	approved	36	13.9	2.4	1.5	223.9
Cyprodinil	Fungicide	approved	36	5.6	83.8	32.0	135.6
Dicamba	Herbicide	approved	36	2.8	83.3	83.3	83.3
Spiroxamine	Fungicide	approved	36	11.1	15.7	2.0	41.8
Boscalid	Fungicide	approved	36	25.0	3.8	1.2	23.0
Spinosyn A	Insecticide	approved	36	2.8	20.2	20.2	20.2
Tebuconazole	Fungicide	approved	36	19.4	1.9	1.2	12.2

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

3.4. Pesticide residues in outdoor dust of all CSS.

Table 3.13 shows an overviewof all pesticide residues that were detected in outdoor dust of the 11 CSS. A total of 72 different compounds were detected in the outdoor dust with 62 compounds detected in outdoor dust of conventional farms and 45 compounds detected for outdoor dust of organic farms. We present the frequency, median and 5 and 95% percentile per farming system and a total overview. A colour gradient in table 3.7 allows to visualize compounds with highest frequency, median and highest 5 % and 95 % percentile concentrations (see tab 3.7).

Glyphosate (approved a.S.) and Anthrachinon were the two compounds detected in the largest concentrations in outdoor dust samples. Pirimicarb (approved a.S.) was the compound with the highest median concentration and a high 95% percentile in outdoor dust samples. Prosulfocarn (approved a.S.) and folpet (approved a.S.) were the two compounds with the highest 95% percentile for outdoor dust samples.

Table 3.13: The pesticide residues detected in outdoor dust of all CSS. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues < LOQ were not included in median and percentile calculation. Compounds that were not analyzed or detected are not shown in this table. The colour scale in the table is a 3-colour scale with white for lowest values, yellow for 50% percentile and dark red for the highest value. The colour scale was applied to the frequency, the median and the 5 % and 95 % percentile concentrations. (Met.= metabolite)

		Total					Conventional					Organic				
PPP Compound	**Type of PPP**	**n**	**% > LOQ**	**Median**	**p5[a]**	**p95[b]**	**n**	**% > LOQ**	**Median**	**p5[a]**	**p95[b]**	**n**	**% > LOQ**	**Median**	**p5[a]**	**p95[b]**
Glyphosate	Herbicide	20	100.0	39.9	10.2	204.0	10	100.0	39.9	10.1	334.3	10	100.0	39.0092	10.91	102.5
AMPA (Met.)	Herbicide	20	75.0	17.5	9.0	112.6	10	90.0	17.5	8.6	194.0	10	60.0	17.1	13.0	27.7
2,4-D (free)	Herbicide	18	33.33333	62.9781	18.99	781.43	9	33.3333	83.4347	79.8183	921.023	9	33.3333	29.8506	16.823	44.87
Acetamiprid (Met.)	Insecticide	20	10.0	42.8	15.5	70.1	10	20.0	42.8	15.5	70.1	10	0.0	-	-	-
Aclonifen	Herbicide	18	11.1	22.8401	20.17	25.512	9	22.2	22.8401	20.1682	25.512	9	0.0	-	-	-
Ametoctradin	Fungicide	18	11.1	54.9	33.9	75.9	9	11.1	78.2	78.2	78.2	9	11.1	31.5792	31.579	31.58
Azoxystrobin	Fungicide	18	5.6	515.5	515.5	515.5	9	11.1	515.5	515.5	515.5	9	0.0	-	-	-
Boscalid	Fungicide	18	16.7	53.9	35.4	153.9	9	22.2	109.5	59.4	159.5	9	11.1	33.3	33.3	33.3
Carbendazim (Met.)*	Fungicide	18	5.6	28.4	28.4	28.4	9	11.1	28.4	28.4	28.4	9	0.0	-	-	-
Chlorothalonil*	Fungicide	18	22.2	113.251	39.29	183.13	9	33.3	90.5439	36.2704	181.361	9	11.1	135.958	135.96	136
Chlorpropham	Herbicide	20	20	55.4539	19.39	68.669	10	20	39.7577	17.1869	62.3284	10	20	57.7085	47.235	68.18
Chlorpyrifos-methyl*	Insecticide	20	10.0	18.1	13.6	22.7	10	10.0	23.2076	23.2076	23.2076	10	10.0	13.1	13.1	13.1
Clomazone	Herbicide	18	22.2	11.8428	10.58	61.544	9	33.3	12.3619	11.4276	64.4372	9	11.1	10.4485	10.449	10.45
Cyflufenamide	Fungicide	18	16.7	81.8	23.1	217.9	9	11.1	233.1	233.1	233.1	9	22.2	49.2164	19.891	78.54
Cymoxanil	Fungicide	18	16.7	1385.3	327.4	1403.6	9	11.1	1405.6	1405.6	1405.6	9	22.2	797.562	268.6	1327
Cypermethrin	Insecticide	18	5.6	23.9472	23.95	23.947	9	0.0	-	-	-	9	11.1	23.9472	23.947	23.95
Cyproconazole	Fungicide	18	5.6	11.3442	11.34	11.344	9	11.1	11.3442	11.3442	11.3442	9	0.0	-	-	-
Cyprodinil	Fungicide	18	16.7	51.0	24.4	1620.3	9	22.2	36.2	22.9	49.5	9	11.1	1794.64	1794.6	1795
DDE p,p'* (Met.)	insecticide	20	25.0	29.2	11.0	35.9	10	30.0	33.7	16.9	36.2	10	20.0	19.6	11.0	28.2
Deltamethrin	insecticide	20	15.0	32.8	14.5	33.1	10	30.0	32.8	14.5	33.1	9	0.0	-	-	-
Dieldrin	insecticide	18	5.6	12.4	12.4	12.4	9	0.0	-	-	-	9	11.1	12.4	12.4	12.4

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Difenoconazole	Fungicide	20	15.0	40.7	16.9	209.6	10	20.0	121.3	24.9	217.6	10	10.0	40.7	40.7	40.7
Diflufenican	Herbicide	18	5.6	17.8	17.8	17.8	9	11.1	17.8	17.8	17.8	9	0.0	-	-	-
Dimethomorph	Fungicide	20	25.0	68.1	31.7	623.4	10	30.0	68.1	31.5	680.9	10	20.0	84.9	52.1	117.7
Dimoxystrobin	Fungicide	18	5.6	159.8	159.8	159.8	9	11.1	159.8	159.8	159.8	9	0.0	-	-	-
Ethofumesate	Herbicide	18	38.9	17.7892	11.58	638.68	9	44.4	15.4665	11.2468	727.127	9	33.3	25.6224	15.831	128.8
Fenbuconazole	Fungicide	18	5.6	12.2	12.2	12.2	9	11.1	12.2	12.2	12.2	9	0.0	-	-	-
Fenhexamid	Fungicide	18	11.1	37.2249	23.92	50.526	9	0.0	-	-	-	9	22.2	37.2249	23.923	50.53
Fenpropidin	Fungicide	18	5.6	136.4	136.4	136.4	9	11.1	136.416	136.416	136.416	9	0.0	-	-	-
Fenpropimorph*	Fungicide	18	5.6	28.9	28.9	28.9	9	11.1	28.9035	28.9035	28.9035	9	0.0	-	-	-
Fenvalerate*	insecticide	18	5.6	76.0	76.0	76.0	9	11.1	76.0	76.0	76.0	9	0.0	-	-	-
Fludioxonil	Fungicide	18	11.1	345.4	64.2	626.7	9	11.1	32.9	32.9	32.9	9	11.1111	657.946	657.95	657.9
Flufenacet	Herbicide	18	11.1	26.7254	12.51	40.943	9	22.2	26.7254	12.5077	40.9431	9	0.0	-	-	-
Fluopicolide	Fungicide	18	5.6	17.0	17.0	17.0	9	11.1	17.0	17.0	17.0	9	0.0	-	-	-
Fluopyram	Fungicide	20	35.0	23.9	13.1	344.4	10	40.0	33.1	23.7	407.2	10	30.0	14.5	12.7	44.4
Flutolanil	Fungicide	18	5.6	676.579	676.6	676.58	9	11.1	676.579	676.579	676.579	9	0.0	-	-	-
Fluxapyroxad	Fungicide	18	5.6	11.7	11.7	11.7	9	0.0	-	-	-	9	11.1	11.6773	11.677	11.68
Folpet PHI (Met.)	Fungicide	18	50	392.775	52.17	5797.9	9	55.5556	392.775	98.7683	7238.13	9	44.4444	267.864	43.802	1121
Hexachlorobenzene	Fungicide	18	5.6	112.7	112.7	112.7	9	0.0	-	-	-	9	11.1	112.7	112.7	112.7
Indoxacarb	Insecticide	18	5.6	57.6	57.6	57.6	9	11.1	57.6	57.6	57.6	9	0.0	-	-	-
Iprovalicarb	Fungicide	18	5.6	51.6	51.6	51.6	9	0.0	-	-	-	9	11.1	51.5569	51.557	51.56
Kresoxim-methyl	Fungicide	18	16.7	325.999	290.1	875.44	9	22.2	306.075	288.143	324.007	9	11.1	936.488	936.49	936.5
lambda-Cyhalothrin	Insecticide	2	50.0	56.6	56.6	56.6	1	100.0	56.6	56.6	56.6	1	0.0	-	-	-
Mandipropamid	Fungicide	18	16.7	189.6	53.8	656.7	9	22.2	373.7	72.2	675.1	9	11.1	189.61	189.61	189.6
MCPA	Herbicide	18	16.7	35.6811	32.45	47.002	9	22.2	40.1733	32.8959	47.4507	9	11.1111	35.6811	35.681	35.68
Metalaxyl (M)	Fungicide	20	25.0	696.7	12.7	3367.8	10	40.0	355.7	12.6	1094.9	10	10.0	3918.5	3918.5	3918.5
Metamitron	Herbicide	18	5.6	20.8915	20.89	20.891	9	11.1	20.8915	20.8915	20.8915	9	0.0	-	-	-
Metolachlor (S)	Herbicide	18	55.6	53.8	21.1	194.3	9	55.6	73.7	23.2	163.9	9	55.6	47.4	28.6	179.4
Metrafenone	Fungicide	18	16.7	20.2	13.6	78.7	9	11.1	85.2	85.2	85.2	9	22.2	16.5	13.2	19.8
Metribuzin	Herbicide	18	11.1	140.1	46.0	234.1	9	11.1	244.6	244.6	244.6	9	11.1	35.5783	35.578	35.58

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Myclobutanil	Fungicide	18	5.6	112.8	112.8	112.8	9	11.1	112.8	112.8	112.8	9	0.0	-	-	-
Oxyfluorfen	Herbicide	2	50.0	84.4	84.4	84.4	1	100.0	84.4	84.4	84.4	1	0.0	-	-	-
Penconazole	Fungicide	18	11.1	325.4	182.5	468.2	9	11.1	166.6	166.6	166.6	9	11.1	484.102	484.1	484.1
Pendimethalin	Herbicide	20	70.0	148.7	13.8	1142.9	10	70.0	122.5	32.6	1290.5	10	70.0	174.924	19.238	427.1
Phosmet	Insecticide	18	5.6	323.6	323.6	323.6	9	11.1	323.6	323.6	323.6	9	0.0	-	-	-
Phosmet oxon (Met.)	Insecticide	18	5.6	67.8511	67.85	67.851	9	11.1	67.8511	67.8511	67.8511	9	0.0	-	-	-
Pirimicarb	Insecticide	18	11.1	2538.5	284.2	4792.7	9	22.2	2538.5	284.2	4792.7	9	0.0	-	-	-
Pirimicarb desmethyl-(Met.)	Insecticide	18	5.6	1222.28	1222	1222.3	9	11.1	1222.28	1222.28	1222.28	9	0.0	-	-	-
Pirimiphos-methyl	Insecticide	18	5.6	17.2207	17.22	17.221	9	11.1	17.2207	17.2207	17.2207	9	0.0	-	-	-
Propyzamide	Herbicide	2	50.0	35.5	35.5	35.5	1	0.0	-	-	-	1	100.0	35.5	35.5	35.5
Prosulfocarb	Herbicide	18	50.0	23.3	11.0	10413.1	9	44.4	52.8	12.8	12283.1	9	55.6	21.4087	11.629	3507
Prothioconazole desthio	Fungicide	18	50.0	68.8	27.5	202.0	9	55.6	61.2	21.7	137.4	9	44.4	88.241	49.118	215.1
Pyraclostrobin	Fungicide	18	5.6	14.7	14.7	14.7	9	11.1	14.7	14.7	14.7	9	0.0	-	-	-
Pyrimethanil	Fungicide	18	5.6	252.9	252.9	252.9	9	0.0	-	-	-	9	11.1	252.923	252.92	252.9
Spinosyn A	Insecticide	2	50.0	29.6	29.6	29.6	1	0.0	-	-	-	1	100.0	29.6	29.6	29.6
Spinosyn D	Insecticide	2	50.0	20.2	20.2	20.2	1	0.0	-	-	-	1	100.0	20.2	20.2	20.2
Spirotetramat	Insecticide	18	22.2	13.3	10.4	30.9	9	44.4	13.3	10.4	30.9	9	0.0	-	-	-
Tebuconazole	Fungicide	20	30.0	27.1	18.7	117.5	10	40.0	21.5	18.7	56.3	10	20.0	83.0	35.3	130.8
Tetraconazole	Fungicide	18	16.7	15.6	13.2	28.6	9	22.2	21.5	13.8	29.2	9	11.1	15.5589	15.559	15.56
Tri-allate	Herbicide	18	27.8	19.2946	14.12	652.96	9	33.3	16.0129	13.8849	645.82	9	22.2	210.462	38.411	382.5
Trifloxystrobin	Fungicide	18	11.1	370.9	79.5	662.3	9	11.1	694.7	694.7	694.7	9	11.1	47.154	47.154	47.15
Zoxamid	Fungicide	18	16.7	170.8	69.5	838.8	9	11.1	913.0	913.0	913.0	9	22.2	114.507	63.855	165.2
Total amount of PPP compound detected			**72**					**62**					**45**			

*Not approved compounds according to Approval status EC Reg. No (1107/2009). [a]p5 = 5 % percentile; [b]p95 = 95 % percentile

Table 3.14: The 10 pesticide residues detected in the highest amount of outdoor dust samples of all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
Glyphosat	Herbicide	approved	20	100	39.9	10.2	204.0
Anthrachinon	-		20	90	135.7	61.9	396.9
Deet	Insecticide	not approved	20	80	23.7	11.4	54.9
AMPA	Herbicide	metabolite	20	75	17.5	9.0	112.6
Pendimethalin	Herbicide	approved	20	70	148.7	13.8	1142.9
Metolachlor	Herbicide	approved	20	50	53.8	21.1	194.3
Phthalimid	-		20	50	179.6	84.1	5851.6
Terbuthylazin	Herbicide	approved	20	50	32.4	22.2	114.2
Terbuthylazin-desethyl	Herbicide	metabolite	20	50	17.6	10.7	41.3
Folpet	Fungicide	approved	20	45	392.8	52.2	5797.9

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.15: The 10 pesticide residues with the highest median for outdoor dust samples of all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
Pirimicarb	Insecticide	approved	20	10	2538.5	284.2	4792.7
Cymoxanil	Fungicide	approved	20	15	1385.3	327.4	1403.6
Pirimicarbdesmethyl	Insecticide	metabolite	20	5	1222.3	1222.3	1222.3
Metalaxyl	Fungicide	approved	20	25	696.7	12.7	3367.8
Pirimicarbdesme-form	Insecticide	metabolite	20	5	696.3	696.3	696.3
Flutolanil	Fungicide	approved	20	5	676.6	676.6	676.6
Azoxystrobin	Fungicide	approved	20	5	515.5	515.5	515.5
Valifenalat	Fungicide	approved	20	5	395.7	395.7	395.7
Folpet	Fungicide	approved	20	45	392.8	52.2	5797.9
Trifloxystrobin	Fungicide	approved	20	10	370.9	79.5	662.3

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Disclaimer: This report is part of a project that has received funding by the European Union's Horizon 2020 research and innovation program under grant agreement number 862568.

Table 3.16: The 10 pesticide residues with the highest detected concentration for outdoor dust samples of all CSS (both conventional and organic farms). (Met.= metabolite)

PPP Compound	Type of PPP	Approval status EC Reg. No (1107/2009)	n	% > LOQ	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]
Prosulfocarb	Herbicide	approved	20	45	23.3	11.0	10413.1
Folpet	Fungicide	approved	20	45	392.8	52.2	5797.9
Phthalimid	n.a.		20	50	179.6	84.1	5851.6
Pirimicarb	Insecticide	approved	20	10	2538.5	284.2	4792.7
Metalaxyl	Fungicide	approved	20	25	696.7	12.7	3367.8
Cyprodinil	Fungicide	approved	20	15	51.0	24.4	1620.3
Pendimethalin	Herbicide	approved	20	70	148.7	13.8	1142.9
Cymoxanil	Fungicide	approved	20	15	1385.3	327.4	1403.6
Diphenamid	Herbicide	not approved	20	35	75.7	17.5	1026.8
Pirimicarbdesmethyl	Insecticide	metabolite	20	5	1222.3	1222.3	1222.3

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

3.5. Pesticide residues in environmental samples per CSS

In this chapter we present the pesticides with the highest frequency and concentrations per CSS and farming system per environmental matrix: soil, water, sediment, outdoor dust. In table 3 of the methods section can be found the amount of environmental samples that were collected and the amount of analyzed samples. We present the frequency, median and 5 and 95% for soil, surface water and sediment, for outdoor dust samples we only present frequency and individual concentrations since only 2 samples were taken per farming type and CSS.

For CSS-1 no sediment samples were taken and thus no measurement for sediment are given for CSS-1. Sediment samples were not yet analyzed for CSS-5, CSS-11 and thus not part of this report. The outdoor dust samples for CSS-1 and CSS-11 were not yet analyzed and thus also not part of this report.

3.5.1 Pesticide residues in environmental samples in CSS 1

*Table 3.17: The 10 pesticide residues detected **in soils** of CSS-1 (Spain) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) calculation.*

		Total					Conventional					Organic				
PPP Compound	**Type of PPP**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
Glyphosate	Herbicide	20	5	82.7	82.7	82.7	10	10	82.7	82.7	82.7	10	0		-	-
AMPA	Herbicide	20	15	114	100	127	10	20	114	100	127	10	10	<LOQ	<LOQ	<LOQ
Azoxystrobin	Fungicide	20	35	44.0	14.6	273	10	70	44.0	14.6	273	10	0	-	-	-
Captan THPI	Fungicide	20	80	84.1	62.6	420	10	70	88.8	71.9	457	10	90	83.7	60.2	246
Chlorantraniliprole	Insecticide	20	35	33.7	10.2	108	10	70.0	33.7	10.2	108	10	0	-	-	-
Chlorpyrifos	Insecticide	20	85	0.70	0.50	39.6	10	80	3.00	0.70	11.4	10	90	0.55	0.50	41.3
DDD p,p'	Insecticide	20	40	5.80	1.46	44.0	10	70	8.10	1.38	46.5	10	10	3.10	3.10	3.10
DDE p,p'	Insecticide	20	100	11.7	1.68	936	10	100	203	7.56	1965	10	100	3.15	1.43	139
DDT o,p'	Insecticide	20	40	8.35	1.97	57.8	10	70	11.0	1.86	61.0	10	10	5.70	5.70	5.70
DDT p,p'	Insecticide	20	25	52.3	20.5	192	10	40	55.6	47.9	200	10	10	13.8	13.8	13.8
Difenoconazole	Fungicide	20	50	20.4	5.87	228	10	90	20.4	5.87	228	10	10	<LOQ	<LOQ	<LOQ
Imidacloprid (desnitro-)	Insecticide	20	35	8.24	3.93	10.3	10	70.0	8.24	3.93	10.3	10	0	-	-	-
lambda-Cyhalothrin	Insecticide	20	40	24.9	3.38	120	10	70	30.0	9.01	126	10	10	2.40	2.40	2.40
Metalaxyl (M)	Fungicide	20	60	33.4	12.9	226	10	80	34.2	12.4	239	10	40	21.3	21.3	21.3
Metazachlor	Herbicide	20	5	135	135	135	10	10	135	135	135	10	0	-	-	-
Metolachlor oxanilic acid	Herbicide	19	47	31.3	11.1	246	10	80	33.5	10.5	262	9	11	22.3	22.3	22.3
Oxyfluorfen	Herbicide	20	30	135	31.7	349	10	60	135	31.7	349	10	0	-	-	-
Propamocarb	Fungicide	20	5	158	158	158	10	10	158	158	158	10	0	-	-	-
Spinosyn A	Insecticide	20	10	54.1	54.1	54.1	10	0	-	-	-	10	20	54.1	54.1	54.1
Tebuconazole	Fungicide	20	15	341	341	341	10	10	<LOQ	<LOQ	<LOQ	10	20	341	341	341

If the 10th highest detection frequency was the same for more than one compound all have been included. % positive samples = % > LOD. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.18: The 10 pesticide residues detected in ***surface water*** *of CSS-1 (Spain) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					**Conventional**					**Organic**				
PPP Compound	**Type of PPP**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**N**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
AMPA	Herbicide	7	71	383	383	383	4	75	383	383	383	3	67	<LOQ	<LOQ	<LOQ
Glyphosate	Herbicide	7	100	120	11.2	652	4	100	144	122	166	3	100	14.6	10.8	697
Acetamiprid	Insecticide	7	14	24.6	24.6	24.6	4	25	24.6	24.6	24.6	3	0	-	-	-
Azoxystrobin	Fungicide	7	29	10.5	6.5	14.6	4	50	10.5	6.5	14.6	3	0	-	-	-
Bentazone	Herbicide	7	14	17.5	17.5	17.5	4	25	17.5	17.5	17.5	3	0	-	-	-
Boscalid	Fungicide	7	14	18.4	18.4	18.4	4	25	18.4	18.4	18.4	3	0	-	-	-
Chlorantraniliprole	Insecticide	7	71	5.7	5.1	7.3	4	100	5.91	5.14	7.40	3	33	5.47	5.47	5.47
DDD o,p'	Insecticide	7	86	<LOQ	<LOQ	<LOQ	4	75	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDD p,p'	Insecticide	7	100	<LOQ	<LOQ	<LOQ	4	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDE p,p'	Insecticide	7	100	<LOQ	<LOQ	<LOQ	4	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDE, o,p'	Insecticide	7	71	<LOQ	<LOQ	<LOQ	4	50	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDT p,p'	Insecticide	7	71	<LOQ	<LOQ	<LOQ	4	75	<LOQ	<LOQ	<LOQ	3	67	<LOQ	<LOQ	<LOQ
Dieldrin	Insecticide	7	100	<LOQ	<LOQ	<LOQ	4	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Fludioxonil	Fungicide	7	29	11.1	8.97	13.2	4	50	11.1	8.97	13.2	3	0	-	-	-
Fluopicolide	Fungicide	7	14	13.0	13.0	13.0	4	25	13.0	13.0	13.0	3	0	-	-	-
Fluroxypyr (only free)	Herbicide	7	14	109	109	109	4	0	-	-	-	3	33	109	109	109
Hexachlorobenzene	Fungicide	7	100	<LOQ	<LOQ	<LOQ	4	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Lindane (gamma-HCH)	Insecticide	7	100	0.60	0.52	0.66	4	100	0.61	0.52	0.66	3	100	0.59	0.57	0.61
Metalaxyl (M)	Fungicide	7	71	14.6	12.6	16.7	4	75	14.6	12.6	16.7	3	67	<LOQ	<LOQ	<LOQ
Propamocarb	Fungicide	7	43	31.6	31.6	31.6	4	75	31.6	31.6	31.6	3	0	-	-	-

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Disclaimer: This report is part of a project that has received funding by the European Union's Horizon 2020 research and innovation program under grant agreement number 862568.

*Table 3.19: The 10 pesticide residues detected with the highest concentration in **outdoor dust** of CSS-1 (Spain). The table shows the highest pesticide residue level detected, considering both farming type (total), conventional and organic farming.*

Total			**Conventional**			**Organic**		
Compound	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**
Pendimethalin	Herbicide	1,417.04	Pendimethalin	Herbicide	1,417.04	Pendimethalin	Herbicide	174.92
Metalaxyl	Fungicide	1,165.20	Metalaxyl	Fungicide	1,165.20	Glyphosate	Herbicide	43.99
Glyphosate	Herbicide	191.01	Glyphosate	Herbicide	191.01	Biphenyl	Fungicide	41.81
Oxyfluorfen	Herbicide	84.44	Oxyfluorfen	Herbicide	84.44	Propyzamide	Herbicide	35.46
Acetamiprid	Insecticide	73.15	Acetamiprid	Insecticide	73.15	Chlorpyrifos-et	Insecticide	29.77
Deet	Insecticide	71.65	Deet	Insecticide	71.65	Spinosyn A	Insecticide	29.6
Lambda-Cyhalothrin	Insecticide	56.62	Lambda-Cyhalothrin	Insecticide	56.62	Deet	Insecticide	23.57
Biphenyl	Fungicide	41.81	Biphenyl	Fungicide	38.82	pentachloroanisole	Fungicide	22.58
pentachloroanisole	Fungicide	36.85	pentachloroanisole	Fungicide	36.85	Spinosyn D	Insecticide	20.2
Propyzamid	Herbicide	35.46	DDE-pp	Insecticide	33.69	Tolclophos-me	Fungicide	19.14

Disclaimer: This report is part of a project that has received funding by the European Union's Horizon 2020 research and innovation program under grant agreement number 862568.

3.5.2. Pesticide residues in environmental samples of CSS-2.

*Table 3.20: The 10 pesticide residues detected in **soils** of CSS-2 (Portugal) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
captan THPI	Fungicide	20	100	134	106	347	10	100	121	98.3	292	10	100	149	118	404
Azoxystrobin	Fungicide	20	40	23.3	10.2	174	10	80	23.3	10.2	174	10	0	-	-	-
Boscalid	Fungicide	20	50	175	22	427	10	80	216	110.2	430	10	20	22.8	17.3	28.4
Chlorpyrifos	Insecticide	20	55	0.50	0.43	101	10	80	13.6	0.5	117	10	30	0.50	0.41	0.50
Cyprodinil	Fungicide	20	15	117	30.2	199	10	30	117	30.2	199	10	0	-	-	-
DDE p,p'	Insecticide	20	100	1.2	0.2	10.8	10	100	0.95	0.45	11.1	10	100	2.45	0.20	7.63
Dieldrin	Insecticide	20	5	1117	1117	1117	10	0	-	-	-	10	10	1117	1117	1117
Dimethomorph	Fungicide	20	70	71.3	17.5	335	10	100	67.5	17.0	340	10	40	188	83	293
Fludioxonil	Fungicide	20	15	72.7	14.6	157	10	30	72.7	14.6	157	10	0	-	-	-
iprovalicarb	Fungicide	20	10	174	116	232	10	20	174	116	232	10	0	-	-	-
Mandipropamid	Fungicide	20	30	37.9	12.9	282	10	60	37.9	12.9	282	10	0	-	-	-
Metalaxyl (M)	Fungicide	20	85	38.4	11.7	115	10	100	38.4	10.4	121	10	70	30.1	22.3	37.9
Metolachlor oxanilic acid	Herbicide	20	45	37.1	20.4	121	10	60	55.6	21.1	127	10	30	29.0	22.2	35.9
Metrafenone	Fungicide	20	5	108	108	108	10	10	108	108	108	10	0	-	-	-
penconazole	Fungicide	20	30	16.5	7.8	108	10	60	16.5	7.8	108	10	0	-	-	-
Pendimethalin	Herbicide	20	5	659	659	659	10	10	659	659	659	10	0	-	-	-
Tebuconazole	Fungicide	20	45	15.2	8.10	77.4	10	70	15.2	8.0	79.7	10	20	16.1	9.5	22.8

If the 10th highest detection frequency was the same for more than one compound all have been included. Glyphosate and AMPA have not yet been analyzed for this CSS (CSS-2, Portugal). [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.21: The 10 pesticide residues detected in **surface waters** of CSS-2 (Portugal) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.

		Total					Conventional					Organic				
PPP Compound		n	% positive samples	Median (ng/L)	p5 (ng/L)[a]	p95 (ng/L)[b]	n	% positive samples	Median (ng/L)	p5 (ng/L)[a]	p95 (ng/L)[b]	n	% positive samples	Median (ng/L)	p5 (ng/L)[a]	p95 (ng/L)[b]
AMPA	Herbicide	8	100	87.6	82.2	287	8	100	87.6	82.2	287					
Glyphosate	Herbicide	8	100	138	112	232	8	100	138	112	232					
Boscalid	Fungicide	8	13	911	911	911	8	13	911	911	911					
Clothianidin	Insecticide	8	13	71.6	71.6	71.6	8	13	71.6	71.6	71.6					
DDD o,p'	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
DDD p,p'	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
DDE p,p'	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
DDT o,p'	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
DDT p,p'	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
Dieldrin	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
Dimethomorph	Fungicide	8	100	28.3	10.1	95.3	8	100	28.3	10.1	95.3					
Diuron	Herbicide	8	50	26.3	11.7	43.3	8	50	26.3	11.7	43.3					
Ethofumesate	Herbicide	8	50	77.0	32.1	210	8	50	77.0	32.1	210					
Hexachlorobenzene	Fungicide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
iprovalicarb	Fungicide	8	75	43.1	43.1	43.1	8	75	43.1	43.1	43.1					
Lindane (gamma-HCH)	Insecticide	8	100	1.75	1.42	2.14	8	100	1.75	1.42	2.14					
Metalaxyl (M)	Fungicide	8	100	15.9	6.24	222	8	100	15.9	6.24	222					
Metalaxyl Metabolite CGA 62826 (87764-37-2)	Fungicide	8	100	15.3	8.67	231	8	100	15.3	8.67	231					
Tebuconazole	Fungicide	8	100	16.9	7.58	51.6	8	100	16.9	7.58	51.6					
Terbuthylazine	Herbicide	8	100	5.18	5.18	5.18	8	100	5.18	5.18	5.18					
Trifloxystrobin metabolite CGA 321113	Fungicide	8	50	51.0	51.0	51.0	8	50	51.0	51.0	51.0					

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Disclaimer: This report is part of a project that has received funding by the European Union's Horizon 2020 research and innovation program under grant agreement number 862568.

Table 3.22: The 10 pesticide residues detected in ***sediments*** *of CSS-2 (Portugal) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Conventional						Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**Max (µg/kg d.w)[c]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
Glyphosate	Herbicide	8	78	27.1	18.3	88.0	106	0				
AMPA	Herbicide	8	90	40.7	16.3	105	121	0				
Azoxystrobin	Fungicide	8	13	8.34	8.34	8.34	8.34	0				
Boscalid	Fungicide	8	38	20.5	3.04	24.3	24.7	0				
Carbendazim	Fungicide	8	13	9.20	9.20	9.20	9.20	0				
carfentrazone-ethyl	Herbicide	8	13	1.00	1.00	1.00	1.00	0				
Cyprodinil	Fungicide	8	13	26.2	26.2	26.2	26.2	0				
Cyprodinil metabolite CGA304075	Fungicide	8	13	2.4	2.4	2.4	2.4	0				
Difenoconazole	Fungicide	8	13	24.7	24.7	24.7	24.7	0				
Diflufenican	Herbicide	8	13	4.48	4.48	4.48	4.48	0				
Dimethomorph	Fungicide	8	25	5.33	2.28	8.38	8.72	0				
Fluopicolide	Fungicide	8	13	1.02	1.02	1.02	1.02	0				
Fluxapyroxad	Fungicide	8	13	0.95	0.95	0.95	0.95	0				
Metalaxyl (M)	Fungicide	8	13	1.51	1.51	1.51	1.51	0				
Spirotetramat-keto-hydroxy	Insecticide	8	13	10.8	10.8	10.8	10.8	0				
Spiroxamine	Fungicide	8	13	29.2	29.2	29.2	29.2	0				
Tebuconazole	Fungicide	8	25	2.93	1.73	4.12	4.25	0				
Terbutryn	Herbicide	8	13	1.21	1.21	1.21	1.21	0				

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile; [c]Max = Highest pesticide residue concentration detected.

*Table 3.23: The 10 pesticide residues detected with the highest concentration in **outdoor dust** of CSS-2 (Portugal). The table shows the highest pesticide residue level detected, considering both farming type (total), conventional and organic farming.*

Total			**Conventional**			**Organic**		
Compound	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**
Phthalimid	Fungicide	11206	Folpet	Fungicide	8678	Metalaxyl	Fungicide	3918
Folpet	Fungicide	9127	Phthalimid	Fungicide	8088	Phthalimid	Fungicide	3118
Metalaxyl	Fungicide	4615	Dimethomorph	Fungicide	749	Cyprodinil	Fungicide	1795
Cyprodinil	Fungicide	1795	Metalaxyl	Fungicide	697	Cymoxanil	Fungicide	1385
Cymoxanil	Fungicide	1385	Azoxystrobin	Fungicide	516	Kresoxim-me	Fungicide	936
Kresoxim-me	Fungicide	1223	Anthrachinon	n.a.	345	Fludioxonil	Fungicide	658
Dimethomorph	Fungicide	870	Kresoxim-me	Fungicide	286	Penconazol	Fungicide	484
Fludioxonil	Fungicide	658	Penconazol	Fungicide	167	Folpet	Fungicide	449
Penconazol	Fungicide	651	Boscalid	Fungicide	165	Valifenalat	Fungicide	396
Azoxystrobin	Fungicide	516	Terbuthylazin	Herbicide	24.2	Mandipropamid	Fungicide	190

Disclaimer: This report is part of a project that has received funding by the European Union's Horizon 2020 research and innovation program under grant agreement number 862568.

3.7. Pesticide residues in environmental samples of CSS-3.

*Table 3.24: The 10 pesticide residues detected in **soils** of CSS-3 (France) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
AMPA	Herbicide	17	76	870.5	192.3	1880.4	7	100	870.5	192.3	1880.4	10	60	<LOQ	<LOQ	<LOQ
Glyphosate	Herbicide	17	53	257.4	91.6	494.4	7	100	257.4	91.6	494.4	10	20	<LOQ	<LOQ	<LOQ
captan THPI	Fungicide	17	100	113.9	76.9	126.8	7	100	106.1	51.8	125.7	10	100	118.4	101.1	127.9
Ametoctradin	Fungicide	17	29	44.9	19.1	140.4	7	71	44.9	19.1	140.4	10	0	-	-	-
Boscalid	Fungicide	17	47	28.0	7.9	112.5	7	43	52.7	21.2	135.4	10	50	24.4	7.1	44.0
Chlorpyrifos	Insecticide	17	41	0.3	0.1	5.9	7	57	0.4	0.1	6.8	10	30	0.3	0.1	1.2
DDE p,p'	Insecticide	17	88	1.7	0.2	12.4	7	71	1.7	0.5	7.9	10	100	3	0.1	14.3
DDT p,p'	Insecticide	17	29	2.7	1.2	16.6	7	14	8.4	8.4	8.4	10	40	2.3	1.1	16.2
Difenoconazole	Fungicide	17	29	9.7	7.4	32.2	7	71	9.7	7.4	32.2	10	0	-	-	-
Dimethomorph	Fungicide	17	24	36.3	9.1	139.4	7	57	36.3	9.1	139.4	10	0	-	-	-
Fluopicolide	Fungicide	17	47	82.8	27.0	119.1	7	71	85.2	54.7	119.3	10	30	19.9	19.9	19.9
Mandipropamid	Fungicide	17	12	59.8	18.8	100.8	7	29	59.8	18.8	100.8	10	0	-	-	-
Metrafenone	Fungicide	17	41	41.4	6.2	74.5	7	86	44.0	11.7	75.7	10	10	6.4	6.4	6.4
zoxamid	Fungicide	17	12	43.0	35.7	50.3	7	29	43.0	35.7	50.3	10	0	-	-	-

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

*Table 3.25: The 10 pesticide residues detected in **surface waters** of CSS-3 (France) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
Glyphosate	Herbicide	6	100	174	133	324	3	100	151	130	172	3	100	341	341	341
Atrazine	Herbicide	6	83	6.44	6.44	6.44	3	67	<LOQ	<LOQ	<LOQ	3	100	6.44	6.44	6.44
Boscalid	Fungicide	6	33	41.8	34.8	48.8	3	67	41.8	34.8	48.8	3	0	-	-	-
Chlorantraniliprole	Insecticide	6	67	18.4	9.44	89.0	3	67	63.0	29.5	96.5	3	67	10.1	9.25	10.9
DDD p,p'	Insecticide	6	83	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ	3	67	<LOQ	<LOQ	<LOQ
DDE p,p'	Insecticide	6	83	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ	3	67	<LOQ	<LOQ	<LOQ
Dieldrin	Insecticide	6	100	1.25	1.25	1.25	3	100	1.25	1.25	1.25	3	100	<LOQ	<LOQ	<LOQ
Dimethomorph	Fungicide	6	100	39.4	19.5	111	3	100	99.0	26.0	113	3	100	37.6	25.6	40.8
Diuron	Herbicide	6	17	19.2	19.2	19.2	3	0	-	-	-	3	33	19.2	19.2	19.2
Fluopicolide	Fungicide	6	83	69.4	22.9	257	3	100	133	75.7	273	3	67	37.9	15.4	60.4
Fluopyram	Fungicide	6	83	16.8	10.5	28.1	3	100	13.3	10.1	16.4	3	67	29.4	29.4	29.4
Hexachlorobenzene	Fungicide	6	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Lindane (gamma-HCH)	Insecticide	6	100	0.72	0.62	0.95	3	100	0.75	0.66	0.80	3	100	0.70	0.62	0.97
Metrafenone	Fungicide	6	83	13.0	11.0	19.6	3	100	13.4	11.0	20.0	3	67	12.6	12.6	12.6
Pyrimethanil	Fungicide	6	33	26.0	12.4	39.7	3	33	10.9	10.9	10.9	3	33	41.2	41.2	41.2
Terbuthylazine-desethyl	Herbicide	6	33	36.3	12.8	59.7	3	0	-	-	-	3	67	36.3	12.8	59.7
Trifloxystrobin	Fungicide	6	83	5.65	5.08	7.23	3	67	6.53	5.66	7.40	3	100	5.37	5.03	5.70
Trifloxystrobin metabolite CGA 321113 (Met.)	Fungicide	6	83	36.7	28.1	163	3	100	44.0	30.8	170	3	67	27.9	27.9	27.9
zoxamid	Fungicide	6	50	19.5	14.5	28.2	3	33	29.1	29.1	29.1	3	67	16.8	14.3	19.3

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

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*Table 3.26: The 10 pesticide residues detected in **sediments** of CSS-3 (France) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Conventional						Organic					
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**Max (µg/kg d.w)[c]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**Max (µg/kg d.w)[c]**
Glyphosate	Herbicide	3	33	21.5	21.5	21.5	21.5	2	50	17.1	17.1	17.1	17.1
AMPA	Herbicide	3	100	31.4	24.9	76.5	81.5	2	100	57.2	41.2	73.2	75.0
Boscalid	Fungicide	3	67	3.27	1.86	4.67	4.83	2	50	1.24	1.24	1.24	1.24
Chlorpyrifos/-methyl: TCPy	Insecticide	3	0	-	-	-	0.00	2	50	1.72	1.72	1.72	1.72
Dimethomorph	Fungicide	3	33	14.7	14.7	14.7	14.7	2	50	1.31	1.31	1.31	1.31
fenbuconazole	Fungicide	3	33	8.78	8.78	8.78	8.78	2	0	-	-	-	0.00
Fludioxonil	Fungicide	3	67	2.38	1.49	3.26	3.36	2	50	2.03	2.03	2.03	2.03
Fluopicolide	Fungicide	3	100	2.70	1.16	4.97	5.22	2	50	2.15	2.15	2.15	2.15
Metrafenone	Fungicide	3	33	3.60	3.60	3.60	3.60	2	0	-	-	-	0.00
Myclobutanil	Fungicide	3	33	1.80	1.80	1.80	1.80	2	50	1.30	1.30	1.30	1.30
Pyrimethanil	Fungicide	3	33	2.68	2.68	2.68	2.68	2	0	-	-	-	0.00
Tebuconazole	Fungicide	3	0	-	-	-	0.00	2	50	1.13	1.13	1.13	1.13

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile; [c]Max = Highest pesticide residue concentration detected.

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*Table 3.27: The 10 pesticide residues detected with the highest concentration in **outdoor dust** of CSS-3 (France). The table shows the highest pesticide residue level detected, considering both farming type (total), conventional and organic farming.*

Total			Conventional			Organic		
Compound	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**
Cymoxanil	Fungicide	1615	Cymoxanil	Fungicide	1406	Anthrachinon	n.a.	296
Zoxamid	Fungicide	971	Zoxamid	Fungicide	913	Pyrimethanil	Fungicide	253
Trifloxystrobin	Fungicide	742	Mandipropamid	Fungicide	709	Cymoxanil	Fungicide	210
Mandipropamid	Fungicide	709	Trifloxystrobin	Fungicide	695	Zoxamid	Fungicide	58.2
Fluopyram	Fungicide	472	Fluopyram	Fungicide	472	Fenhexamid	Fungicide	52.0
Anthrachinon	n.a.	413	Phthalimid	Fungicide	376	Dimethomorph	Fungicide	48.4
Phthalimid	Fungicide	376	Cyflufenamid	Fungicide	233	Trifloxystrobin	Fungicide	47.2
Pyrimethanil	Fungicide	253	Difenoconazol	Fungicide	228	Ametoctradin	Fungicide	31.6
Cyflufenamid	Fungicide	250	Anthrachinon	n.a.	117	Metrafenon	Fungicide	20.2
Difenoconazol	Fungicide	228	Metrafenon	Fungicide	85.2	Cyflufenamid	Fungicide	16.6

Disclaimer: This report is part of a project that has received funding by the European Union's Horizon 2020 research and innovation program under grant agreement number 862568.

3.8. Pesticide residues in environmental samples of CSS-4.

*Table 3.28: The 10 pesticide residues detected in **soils** of CSS-4 (Switzerland) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
captan THPI	Fungicide	18	100	148	129	182	8	100	151	141	195	10	100	145	123	173
Carbendazim	Fungicide	18	11	3.95	2.97	4.93	8	25	3.95	2.97	4.93	10	0	-	-	-
Chlorpyrifos	Insecticide	18	44	59.3	15.9	177	8	88	53.7	14.6	181.9	10	10	101	101	101
DDE p,p'	Insecticide	18	94	2.30	0.38	51.56	8	100	5.05	0.40	33.2	10	90	1.90	0.50	59.1
Dieldrin	Insecticide	18	6	108	108	108	8	13	108	108	108	10	0	-	-	-
Difenoconazole	Fungicide	18	33	8.67	6.41	10.93	8	75	8.67	6.41	10.93	10	0	-	-	-
emamectin	Insecticide	18	6	5.12	5.12	5.12	8	13	5.12	5.12	5.12	10	0	-	-	-
Fluopyram	Fungicide	18	28	<LOQ	<LOQ	<LOQ	8	38	<LOQ	<LOQ	<LOQ	10	20	<LOQ	<LOQ	<LOQ
Hexachlorobenzene	Fungicide	18	72	7.25	2.19	68.31	8	75	7.00	4.30	15.2	10	70	7.50	1.69	74.0
Indoxacarb	Insecticide	18	11	10.4	10.4	10.4	8	25	10.4	10.4	10.4	10	0	-	-	-
Metobromuron	Insecticide	18	50	<LOQ	<LOQ	<LOQ	8	25	<LOQ	<LOQ	<LOQ	10	70	<LOQ	<LOQ	<LOQ
Myclobutanil	Fungicide	18	11	8.41	6.03	10.79	8	25	8.41	6.03	10.79	10	0	-	-	-
Pirimicarb	Insecticide	18	11	22.6	22.6	22.6	8	25	22.6	22.6	22.6	10	0	-	-	-
Tebuconazole	Fungicide	18	6	7.29	7.29	7.29	8	13	7.29	7.29	7.29	10	0	-	-	-

If the 10th highest detection frequency was the same for more than one compound all have been included. Glyphosate and AMPA have not yet been analyzed for this CSS (CSS-4, Switzerland). [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

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*Table 3.29: The 10 pesticide residues detected in **surface waters** of CSS-4 (Switzerland) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
AMPA	Herbicide	8	100	87.6	82.2	287	8	100	87.6	82.2	287					
Glyphosate	Herbicide	8	100	138	112	232	8	100	138	112	232					
Boscalid	Fungicide	8	13	911	911	911	8	13	911	911	911					
Clothianidin	Insecticide	8	13	71.6	71.6	71.6	8	13	71.6	71.6	71.6					
DDD o,p'	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
DDD p,p'	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
DDE p,p'	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
DDT o,p'	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
DDT p,p'	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
Dieldrin	Insecticide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
Dimethomorph	Fungicide	8	100	28.3	10.1	95.3	8	100	28.3	10.1	95.3					
Diuron	Herbicide	8	50	26.3	11.7	43.3	8	50	26.3	11.7	43.3					
Ethofumesate	Herbicide	8	50	77.0	32.1	210	8	50	77.0	32.1	210					
Hexachlorobenzene	Fungicide	8	100	<LOQ	<LOQ	<LOQ	8	100	<LOQ	<LOQ	<LOQ					
iprovalicarb	Fungicide	8	75	43.1	43.1	43.1	8	75	43.1	43.1	43.1					
Lindane (gamma-HCH)	Insecticide	8	100	1.75	1.42	2.14	8	100	1.75	1.42	2.14					
Metalaxyl (M)	Fungicide	8	100	15.9	6.24	222	8	100	15.9	6.24	222					
Metalaxyl Metabolite CGA 62826 (87764-37-2)	Fungicide	8	100	15.3	8.67	231	8	100	15.3	8.67	231					
Tebuconazole	Fungicide	8	100	16.9	7.58	51.6	8	100	16.9	7.58	51.6					
Terbuthylazine	Herbicide	8	100	5.18	5.18	5.18	8	100	5.18	5.18	5.18					
Trifloxystrobin metabolite CGA 321113	Fungicide	8	50	51.0	51.0	51.0	8	50	51.0	51.0	51.0					

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

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*Table 3.30: The detected pesticide residues in **sediments** of CSS-4 (Switzerland) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Conventional						Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**Max (µg/kg d.w)[c]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
		0										

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile; [c]Max = Highest pesticide residue concentration detected.

*Table 3.31: The 10 pesticide residues detected with the highest concentration in **outdoor dust** of CSS-4 (Switzerland). The table shows the highest pesticide residue level detected, considering both farming type (total), conventional and organic farming.*

Total			Conventional			Organic		
Compound	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**
Phthalimid	Fungicide	2033	Phthalimid	Fungicide	2033	Diphenamid	Herbicide	1'334
Folpet	Fungicide	1477	Folpet	Fungicide	1'477	Pendimethalin	Herbicide	504
Diphenamid	Herbicide	1356	Kresoxim-me	Fungicide	326	Anthrachinon	n.a.	268
Pendimethalin	Herbicide	627	Anthrachinon	n.a.	244	Prothioconazoldesthio	Fungicide	234
Anthrachinon	n.a.	512	Terbuthylazin	Herbicide	143	Terbuthylazin	Herbicide	57.5
Kresoxim-me	Fungicide	326	Dithianon	Fungicide	139	Metolachlor	Herbicide	25.8
Prothioconazol-desthio	Fungicide	250	Pendimethalin	Herbicide	122	Deet	Insecticide	21.9
Terbuthylazin	Herbicide	201	Myclobutanil	Fungicide	113	Icaridin	Insecticide	11.8
Dithianon	Fungicide	139	Metolachlor	Herbicide	73.7	Terbuthylazin-desethyl	Herbicide	10.3
Myclobutanil	Fungicide	113	Flufenacet	Herbicide	42.5			

Disclaimer: This report is part of a project that has received funding by the European Union's Horizon 2020 research and innovation program under grant agreement number 862568.

3.9. Pesticide residues in environmental samples of CSS-5.

*Table 3.32: The 10 pesticide residues detected in **soils** of CSS-5 (Italy) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
DDE p,p'	Insecticide	20	100	9.75	3.03	64.9	10	100	8.70	2.33	25.0	10	100	33.0	4.00	108.0
Boscalid	Fungicide	20	40	17.9	8.05	29.5	10	50	23.8	7.6	29.6	10	30	15.4	10.9	20.0
captan THPI	Fungicide	20	90	136	89.9	365	10	90	280	83	387	10	90	128.0	98.6	291.6
Chlorantraniliprole	Insecticide	20	20	14.0	8.10	33.8	10	20	13.8	8.6	19.0	10	20	22.4	9.91	34.9
DDD p,p'	Insecticide	20	25	2.40	0.78	2.80	10	10	0.50	0.50	0.50	10	40	2.60	1.98	2.80
DDT o,p'	Insecticide	20	30	2.05	0.63	4.33	10	0	-	-	-	10	60	2.05	0.63	4.33
Dieldrin	Insecticide	20	15	1109	1053	1290	10	0	-	-	-	10	30	1109	1053	1290
Fipronil sulfone	Insecticide	10	30	<LOQ	<LOQ	<LOQ	4	0	-	-	-	6	50	<LOQ	<LOQ	<LOQ
Fluopicolide	Fungicide	20	15	16.7	14.5	28.7	10	20	15.5	14.4	16.6	10	10	30.1	30.1	30.1
Hexachlorobenzene	Fungicide	20	25	1.40	0.98	2.76	10	20	1.15	0.93	1.38	10	30	1.80	1.35	2.88
lambda-Cyhalothrin	Insecticide	20	30	6.60	2.25	32.0	10	50	8.00	2.64	32.7	10	10	3.00	3.00	3.00
Metrafenone	Fungicide	20	10	25.8	12.6	39.0	10	20	25.8	12.6	39.0	10	0	-	-	-
Oxyfluorfen	Herbicide	20	5	46.4	46.4	46.4	10	0	-	-	-	10	10	46.4	46.4	46.4
Pendimethalin	Herbicide	20	20	35.2	11.7	84.6	10	40	35.2	11.7	84.6	10	0	-	-	-
Propamocarb	Fungicide	20	5	88.5	88.5	88.5	10	0	-	-	-	10	10	88.5	88.5	88.5
Tebuconazole	Fungicide	20	70	13.3	10.2	25.8	10	60	18.6	12.6	26.7	10	80	11.5	10.0	13.1

If the 10th highest detection frequency was the same for more than one compound all have been included. Glyphosate and AMPA have not yet been analyzed for this CSS (CSS-5, Italy). [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

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*Table 3.33: The 10 pesticide residues detected in **surface waters** of CSS-5 (Italy) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
AMPA	Herbicide	6	83	121	115	505	3	100	548	548	548	3	67	118	115	121
Glyphosate	Herbicide	5	100	95.0	71.5	2827	2	100	1789	250	3328	3	100	95.0	72.2	133.2
Acetamiprid	Insecticide	6	17	81.6	81.6	81.6	3	33	81.6	81.6	81.6	3	0	-	-	-
Azoxystrobin	Fungicide	6	67	16.7	15.3	18.0	3	67	16.7	16.7	16.7	3	67	16.6	15.3	18.0
DDD o,p'	Insecticide	6	67	<LOQ	<LOQ	<LOQ	3	33	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDD p,p'	Insecticide	6	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDE p,p'	Insecticide	6	67	<LOQ	<LOQ	<LOQ	3	33	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Dieldrin	Insecticide	6	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Dimethomorph	Fungicide	6	33	26.1	26.1	26.1	3	33	26.1	26.1	26.1	3	33	<LOQ	<LOQ	<LOQ
HCB	Fungicide	6	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Lindane (gamma-HCH)	Insecticide	6	100	0.6	0.5	0.6	3	100	0.5	0.5	0.6	3	100	0.6	0.6	0.7
Methiocarb	Insecticide	6	17	17.8	17.8	17.8	3	33	17.8	17.8	17.8	3	0	-	-	-
Metrafenone	Fungicide	6	17	75.9	75.9	75.9	3	33	75.9	75.9	75.9	3	0	-	-	-
Pencycuron	Fungicide	6	50	31.5	31.5	31.5	3	100	31.5	31.5	31.5	3	0	-	-	-
Pyrimethanil	Fungicide	6	50	13.7	8.9	33.3	3	67	21.9	9.7	34.2	3	33	13.7	13.7	13.7
Spinetoram	Insecticide	6	17	132	132	132	3	33	132	132	132	3	0	-	-	-
Spinosyn A	Insecticide	6	17	280	280	280	3	33	280	280	280	3	0	-	-	-
Spinosyn D	Insecticide	6	17	39.2	39.2	39.2	3	33	39.2	39.2	39.2	3	0	-	-	-
Terbuthylazine	Herbicide	6	67	<LOQ	<LOQ	<LOQ	3	33	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.34: The 10 pesticide residues detected in highest concentration in ***outdoor dust*** *of CSS-5 (Italy). The table shows the highest detected pesticide residue level when considering both farming type (total), conventional and organic farming.*

Total			**Conventional**			**Organic**		
Compound	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**
Pendimethalin	Herbicide	1182	Triallat	Herbicide	402	Pendimethalin	Herbicide	995
Triallat	Herbicide	1117	Pendimethalin	Herbicide	187	Triallat	Herbicide	716
Biphenyl	Fungicide	248	Benfluralin	Herbicide	156	Biphenyl	Fungicide	141
Anthrachinon	n.a.	236	Anthrachinon	n.a.	155	Anthrachinon	n.a.	81.5
Benfluralin	Herbicide	191	Biphenyl	Fungicide	107	Clomazon	Herbicide	70.2
Deet	Insecticide	84.2	Chlorflurenol	Herbicide	72.6	3-Chloranilin	n.a.	41.8
3-Chloranilin	n.a.	80.6	Chlorpropham	Herbicide	69.3	Benfluralin	Herbicide	35.0
Chlorflurenol	Herbicide	72.6	Deet	Insecticide	49.3	Deet	Insecticide	34.9
Clomazon	Herbicide	70.2	Pentachloranisol	n.a.	40.8	Pentachloranisol	n.a.	26.2

3.10. Pesticide residues in environmental samples of CSS-6.

*Table 3.35: The 10 pesticide residues detected in **soils** of CSS-6 (Croatia) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
Glyphosate	Herbicide	20	30	167	73.1	804	10	50	167	73.1	804	10	10	<LOQ	<LOQ	<LOQ
AMPA	Herbicide	20	30	516	493	840	10	40	516	493	840	10	20	<LOQ	<LOQ	<LOQ
DDE p,p'	Insecticide	20	90	1.15	0.47	31.7	10	80	1.60	0.57	125	10	100	1.00	0.44	3.02
Acetamiprid	Insecticide	20	5	10.3	10.3	10.3	10	10	10.3	10.3	10.3	10	0	-	-	-
Boscalid	Fungicide	20	10	134	61	206	10	20	134	61.5	206	10	0	-	-	-
captan THPI	Fungicide	20	80	89.5	68.2	105	10	70	98.0	74.9	109	10	90	88.2	68.1	103
Chlorpyrifos	Insecticide	20	30	2.45	0.23	49.5	10	40	5.05	1.30	55.3	10	20	0.25	0.21	0.30
DDT p,p'	Insecticide	20	10	33.2	10.2	56.2	10	10	58.8	58.8	58.8	10	10	7.60	7.60	7.60
Deltamethrin	Insecticide	20	5	35.5	35.5	35.5	10	10	35.5	35.5	35.5	10	0	-	-	-
Dimethomorph	Fungicide	20	5	6.14	6.14	6.14	10	10	6.14	6.14	6.14	10	0	-	-	-
Hexachlorobenzene	Fungicide	20	20	0.30	0.22	0.39	10	10	0.40	0.40	0.40	10	30	0.30	0.21	0.30
Meptyldinocap phenol (Met.)	Fungicide	17	18	6.00	6.00	6.00	7	0	-	-	-	10	30	6.00	6.00	6.00
Tebuconazole	Fungicide	20	15	74.9	43.6	82.9	10	30	74.9	43.6	82.9	10	0	-	-	-
Trifloxystrobin	Fungicide	20	5	10.2	10.2	10.2	10	10	10.2	10.2	10.2	10	0	-	-	-

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

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*Table 3.36: The 10 pesticide residues detected in **surface waters** of CSS-6 (Croatia) with the highest frequency, highest singular oncentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
AMPA	Herbicide	3	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ
Glyphosate	Herbicide	3	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ
DDE p,p'	Insecticide	3	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ
DDE, o,p'	Insecticide	3	67	<LOQ	<LOQ	<LOQ	1	0	-	-	-	2	100	<LOQ	<LOQ	<LOQ
DDT o,p'	Insecticide	3	33	<LOQ	<LOQ	<LOQ	1	0	-	-	-	2	50	<LOQ	<LOQ	<LOQ
DDT p,p'	Insecticide	3	33	<LOQ	<LOQ	<LOQ	1	0	-	-	-	2	50	<LOQ	<LOQ	<LOQ
Dieldrin	Insecticide	3	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ
Hexachlorobenzene	Fungicide	3	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ
Lindane (gamma-HCH)	Insecticide	3	100	0.54	0.54	0.54	1	100	<LOQ	<LOQ	<LOQ	2	100	0.54	0.54	0.54
Permethrin	Insecticide	3	33	<LOQ	<LOQ	<LOQ	1	0	-	-	-	2	50	<LOQ	<LOQ	<LOQ
Piperonyl butoxide	Insecticide	3	67	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ	2	50	<LOQ	<LOQ	<LOQ
Pirimicarb desmethyl-	Insecticide	3	33	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ	2	0	-	-	-
Terbuthylazine	Herbicide	3	33	<LOQ	<LOQ	<LOQ	1	0	-	-	-	2	50	<LOQ	<LOQ	<LOQ
Terbuthylazine-desethyl	Herbicide	3	67	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ	2	50	<LOQ	<LOQ	<LOQ
Trifloxystrobin metabolite CGA 321113	Fungicide	3	33	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ	2	0	-	-	-

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

*Table 3.37: The detected pesticide residues in **sediments** of CSS-6 (Croatia) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Conventional						Organic					
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**Max (µg/kg d.w)[c]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**Max (µg/kg d.w)[c]**
carfentrazone-ethyl	Herbicide	1	0	-	-	-	-	2	0.5	1.10	1.10	1.10	1.10
Dicamba	Herbicide	1	100	83.3	83.3	83.3	83.3	2	0.0	-	-	-	-
Imidacloprid	Insecticide	1	0	-	-	-	-	2	0.5	2.40	2.40	2.40	2.40

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile; [c]Max = Highest pesticide residue concentration detected.

*Table 3.38: The 10 pesticide residues detected with the highest concentration in **outdoor dust** of CSS-6 (Croatia). The table shows the highest pesticide residue level detected, considering both farming type (total), conventional and organic farming.*

Total			Conventional			Organic		
Compound	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**
Phosmet	Insecticide	324	Phosmet	Insecticide	324	Phthalimid	Fungicide	92.8
Phthalimid	Fungicide	277	Phthalimid	Fungicide	184	Folpet	Fungicide	87.2
Anthrachinon	n.a.	143	Chlorpyrifos-et	n.a.	87.8	Anthrachinon	n.a.	62.2
Chlorpyrifos-et	n.a.	87.8	Anthrachinon	n.a.	81.0	Deet	Insecticide	27.0
Folpet	Fungicide	87.2	Phosmet-oxon	Insecticide	67.9	3-Chloranilin	n.a.	24.1
3-Chloranilin	n.a.	72.2	3-Chloranilin	n.a.	48.1	Icaridin	Insecticide	11.3
Phosmet-oxon	Insecticide	67.9	Deet	Insecticide	33.1			
Deet	Insecticide	60.1	Deltamethrin	insecticide	32.8			
Deltamethrin	insecticide	32.8	Carbendazim	Fungicide	28.4			

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3.11. Pesticide residues in environmental samples of CSS-7.

*Table 3.39: The 10 pesticide residues detected in **soils** of CSS-7 (Slovenia) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					**Conventional**					**Organic**				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
captan THPI	Fungicide	20	100	122	94.2	332	10	100	102	90.4	250	10	100	139	109	282
AMPA	Herbicide	20	20	69.7	69.7	69.7	10	10	<LOQ	<LOQ	<LOQ	10	30	69.7	69.7	69.7
Bixafen	Fungicide	20	15	10.0	9.43	33.3	10	20	22.6	10.7	34.6	10	10	10.0	10.0	10.0
Chlorpyrifos	Insecticide	20	20	7.20	1.33	8.74	10	40	7.20	1.33	8.74	10	0	-	-	-
DDD p,p'	Insecticide	20	15	1.20	1.11	4.26	10	20	1.15	1.11	1.20	10	10	4.60	4.60	4.60
DDE p,p'	insecticide	20	80	3.75	0.20	47.8	10	70	4.40	0.39	9.58	10	90	3.10	0.20	51.4
DDT p,p'	insecticide	20	15	45.1	20.1	56.0	10	10	17.3	17.3	17.3	10	20	51.2	45.7	56.6
Epoxiconazole	Fungicide	20	50	6.38	5.62	7.15	10	60	<LOQ	<LOQ	<LOQ	10	40	6.38	5.62	7.15
Fenpropimorph	Fungicide	20	5	6.99	6.99	6.99	10	0	-	-	-	10	10	6.99	6.99	6.99
Hexachlorobenzene	Fungicide	20	30	0.45	0.23	4.35	10	30	0.30	0.21	0.39	10	30	0.90	0.54	5.04
Metolachlor (S)	Herbicide	20	35	40.5	12.3	91.5	10	50	65.3	14.5	91.6	10	20	22.0	22.0	22.0
Metolachlor ethane sulfonic acid (Met.)	Herbicide	20	15	7.11	6.14	8.09	10	20	7.11	6.14	8.09	10	10	<LOQ	<LOQ	<LOQ
Tebuconazole	Fungicide	20	15	6.73	6.03	10.8	10	30	6.73	6.03	10.8	10	0	-	-	-
Terbuthylazine	Herbicide	20	25	8.57	7.06	10.1	10	40	8.57	7.06	10.1	10	10	<LOQ	<LOQ	<LOQ
Terbuthylazine-desethyl	Herbicide	20	20	5.69	5.69	5.69	10	30	5.69	5.69	5.69	10	10	<LOQ	<LOQ	<LOQ
Thiencarbazone-methyl	Herbicide	20	5	43.5	43.5	43.5	10	10	43.5	43.5	43.5	10	0	-	-	-

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

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*Table 3.40: The 10 pesticide residues detected in **surface waters** of CSS-7 (Slovenia) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
AMPA	Herbicide	6	100	131	114	140	2	100	112	112	112	4	100	136	132	141
Glyphosate	Herbicide	6	100	145	88.3	185	2	100	82.0	82.0	82.0	4	100	167	147	187
Atrazine	Herbicide	6	100	8.4	5.4	11.4	2	100	<LOQ	<LOQ	<LOQ	4	100	8.39	5.35	11.4
Azoxystrobin	Fungicide	6	33	9.45	5.63	13.3	2	50	5.20	5.20	5.20	4	25	13.7	13.7	13.7
Bentazone	Herbicide	6	17	13.7	13.7	13.7	2	0	-	-	-	4	25	13.7	13.7	13.7
DDE p,p'	Insecticide	6	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	4	100	<LOQ	<LOQ	<LOQ
DDE, o,p'	Insecticide	6	67	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	4	50	<LOQ	<LOQ	<LOQ
DDT p,p'	Insecticide	6	83	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	4	75	<LOQ	<LOQ	<LOQ
Dieldrin	Insecticide	6	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	4	100	<LOQ	<LOQ	<LOQ
Fludioxonil	Fungicide	6	17	9.58	9.58	9.58	2	0	-	-	-	4	25	9.58	9.58	9.58
Hexachlorobenzene	Fungicide	6	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	4	100	<LOQ	<LOQ	<LOQ
Lindane (gamma-HCH)	Insecticide	6	100	0.64	0.54	0.78	2	100	0.74	0.68	0.80	4	100	0.62	0.53	0.64
Mecoprop (P)	Herbicide	6	17	20.1	20.1	20.1	2	0	-	-	-	4	25	20.1	20.1	20.1
Metalaxyl Metabolite CGA 62826	Fungicide	6	17	11.8	11.8	11.8	2	0	-	-	-	4	25	11.8	11.8	11.8
Metolachlor (S)	Herbicide	6	33	9.90	9.90	9.90	2	50	<LOQ	<LOQ	<LOQ	4	25	9.90	9.90	9.90
Terbuthylazine	Herbicide	6	67	<LOQ	<LOQ	<LOQ	2	50	<LOQ	<LOQ	<LOQ	4	75	<LOQ	<LOQ	<LOQ
Terbutryn	Herbicide	6	67	11.3	11.3	11.3	2	50	<LOQ	<LOQ	<LOQ	4	75	11.3	11.3	11.3

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile. *If the 10th highest detection frequency was the same for more than one compound all have been included.

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*Table 3.41: Detected pesticide residues in **sediment** of CSS 7 (Slovenia) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

PPP Compound		Conventional					Organic					
		n	% positive samples	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]	n	% positive samples	Median (µg/kg d.w)	p5 (µg/kg d.w)[a]	p95 (µg/kg d.w)[b]	Max (µg/kg d.w)[c]
Glyphosate	Herbicide	2	0	-	-	-	4	25	12.4	12.4	12.4	12.4
AMPA	Herbicide	2	0	-	-	-	4	50	46.2	17.4	75.0	78.2
Imidacloprid	Insecticide	2	0	-	-	-	4	25	1.15	1.15	1.15	1.15

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile; [c]Max = Highest pesticide residue concentration detected.

*Table 3.42: The 10 pesticide residues detected with the highest concentration in **outdoor dust** of CSS-7 (Slovenia). The table shows the highest pesticide residue level detected, considering both farming type (total), conventional and organic farming.*

Total			Conventional			Organic		
Compound	Type of PPP	Concentration (ng/sample)	Compound	Type of PPP	Concentration (ng/sample)	Compound	Type of PPP	Concentration (ng/sample)
Metolachlor	Herbicide	385	Metolachlor	Herbicide	209	Anthrachinon	n.a.	239
Anthrachinon	n.a.	324	Anthrachinon	n.a.	85.7	Folpet	Fungicide	189
Folpet	Fungicide	225	Phthalimid	Fungicide	77.5	Metolachlor	Herbicide	176
Phthalimid	Fungicide	170	Folpet	Fungicide	36.1	Phthalimid	Fungicide	92.2
Pendimethalin	Herbicide	120	Pendimethalin	Herbicide	32.3	Pendimethalin	Herbicide	87.4
2.4-D-ethylhexyl	n.a.	94.8	Prosulfocarb	Herbicide	23.3	2.4-D-ethylhexyl	n.a.	79.4
Prothioconazol-desthio	Fungicide	44.9	Terbuthylazin	Herbicide	22.4	Prothioconazol-desthio	Fungicide	44.9
Terbuthylazin	Herbicide	44.4	2.4-D-ethylhexyl	n.a.	15.4	Pirimicarb	Insecticide	33.7
Pirimicarb	Insecticide	33.7	Icaridin	Insecticide	14.2	Fenpropimorph	Fungicide	28.9

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3.12. Pesticide residues in environmental samples of CSS-8.

*Table 3.43: The 10 pesticide residues detected in **soils** of CSS-8 (Czech-Republic) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
captan THPI	Fungicide	24	100	154	111	203	11	100	166	127	209	13	100	152	109	188
Boscalid	Fungicide	24	33	17.7	9.91	54.2	11	55	29.6	12.3	57.0	13	15	13.0	9.81	16.2
Carbendazim	Fungicide	24	8	63.1	46.4	79.7	11	18	63.1	46.4	79.7	13	0	-	-	-
Chlorpyrifos	Insecticide	24	71	1.30	0.28	8.86	11	82	3.80	0.86	10.8	13	62	0.95	0.24	4.03
DDD o,p'	Insecticide	24	17	13.9	10.4	51.7	11	27	12.3	10.3	53.5	13	8	15.4	15.4	15.4
DDD p,p'	Insecticide	24	42	3.55	1.17	85.2	11	55	9.15	3.35	96.1	13	31	2.35	0.99	35.9
DDE p,p'	Insecticide	24	100	81.8	10.9	1432.1	11	100	119.4	8.6	2747	13	100	78.6	19.5	688
DDE, o,p'	Insecticide	24	38	1.80	0.76	26.0	11	55	3.00	0.70	30.0	13	23	1.80	1.44	8.5
DDT o,p'	Insecticide	24	67	5.85	2.4	222	11	82	16.4	3.68	331	13	54	4.40	1.79	101
DDT p,p'	Insecticide	24	96	212	21.4	4043	11	91	363	56.4	14759	13	100	166	18.9	2388
Deltamethrin	Insecticide	24	4	25.5	25.5	25.5	11	9	25.5	25.5	25.5	13	0	-	-	-
Dimethenamid (P)	Herbicide	24	4	21.1	21.1	21.1	11	9	21.1	21.1	21.1	13	0	-	-	-
Fluopicolide	Fungicide	24	4	34.3	34.3	34.3	11	9	34.3	34.3	34.3	13	0	-	-	-
Fluopyram	Fungicide	24	4	31.7	31.7	31.7	11	9	31.7	31.7	31.7	13	0	-	-	-
Hexachlorobenzene	Fungicide	24	100	7.20	2.72	18.0	11	100	6.40	3.10	16.2	13	100	9.40	3.04	17.4
Prochloraz BTS 44595	Fungicide	24	42	20.2	7.1	35.8	11	73	24.0	6.9	36.2	13	15	16.6	13.4	19.8
Tebuconazole	Fungicide	24	38	27.5	23.9	101	11	82	27.5	23.9	101	13	0	-	-	-
Thiophanate-methyl	Fungicide	24	4	160	160	160	11	9	160	160	160	13	0	-	-	-

If the 10th highest detection frequency was the same for more than one compound all have been included. Glyphosate and AMPA have not yet been analyzed for this CSS (CSS-8, Czech-Republic). [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

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*Table 3.44: The 10 pesticide residues detected in **surface waters** of CSS-8 (Czech-Republic) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					**Conventional**					**Organic**				
PPP Compound		**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
AMPA	Herbicide	8	88	108	81.9	900	5	100	108	81.9	900	3	67	<LOQ	<LOQ	<LOQ
Glyphosate	Herbicide	8	100	169	92.0	1360	5	100	199	94.2	1528	3	100	138	101	354
Azoxystrobin-O-demethyl	Fungicide	8	13	148	148	148	5	20	148	148	148	3	0	-	-	-
DDE p,p'	Insecticide	8	100	0.01	0.01	0.01	5	100	<LOQ	<LOQ	<LOQ	3	100	0.01	0.01	0.01
DDT p,p'	Insecticide	8	75	<LOQ	<LOQ	<LOQ	5	100	<LOQ	<LOQ	<LOQ	3	33	<LOQ	<LOQ	<LOQ
Dieldrin	Insecticide	8	88	<LOQ	<LOQ	<LOQ	5	100	<LOQ	<LOQ	<LOQ	3	67	<LOQ	<LOQ	<LOQ
fenhexamid	Fungicide	8	13	122	122	122	5	20	122	122	122	3	0	-	-	-
Fludioxonil	Fungicide	8	13	141	141	141	5	20	141	141	141	3	0	-	-	-
Fluopicolide	Fungicide	8	25	54.3	25.4	83.1	5	40	54.3	25.4	83.1	3	0	-	-	-
Haloxyfop-P (Haloxyfop-R) (free)	Herbicide	8	13	116	116	116	5	0	-	-	-	3	33	116	116	116
Hexachlorobenzene	Herbicide	8	100	<LOQ	<LOQ	<LOQ	5	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Lindane (gamma-HCH)	Insecticide	8	100	0.7	0.7	0.7	5	100	0.73	0.73	0.73	3	100	<LOQ	<LOQ	<LOQ
Metolachlor (S)	Herbicide	8	13	51.5	51.5	51.5	5	20	51.5	51.5	51.5	3	0	-	-	-
Propamocarb	Fungicide	8	13	65.7	65.7	65.7	5	20	65.7	65.7	65.7	3	0	-	-	-
Tebuconazole	Fungicide	8	75	17.7	5.58	34.3	5	100	14.8	5.19	32.0	3	33	33.4	33.4	33.4
Terbuthylazine	Herbicide	8	100	95.3	27.0	164	5	100	171	171	171	3	100	19.5	19.5	19.5
Terbuthylazine-desethyl	Herbicide	8	88	14.5	6.6	65.9	5	80	22.3	7.3	74.1	3	100	11.2	9.06	14.2
Terbutryn	Herbicide	8	100	<LOQ	<LOQ	<LOQ	5	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

Table 3.45: Detected pesticide residues in ***sediments*** *of CSS-8 (Czech-Republic). Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Conventional						Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**Max (µg/kg d.w)[c]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
Glyphosate	Herbicide	3	100	134	70.0	614	667	0				
AMPA	Herbicide	3	100	76.1	53.6	280	303	0				
Azoxystrobin	Fungicide	3	67	2.81	1.49	4.12	4.27	0				
Azoxystrobin-O-demethyl	Fungicide	3	33	6.44	6.44	6.44	6.44	0				
Boscalid	Fungicide	3	67	3.66	2.57	4.74	4.86	0				
Chlorantraniliprole	Insecticide	3	33	2.80	2.80	2.80	2.80	0				
Chlorothalonil 4-hydroxy	Fungicide	3	33	1.60	1.60	1.60	1.60	0				
Clomazone	Herbicide	3	33	1.14	1.14	1.14	1.14	0				
Cyprodinil	Fungicide	3	33	141	141	141	141	0				
Cyprodinil metabolite CGA304075	Fungicide	3	33	2.40	2.40	2.40	2.40	0				
Difenoconazole	Fungicide	3	67	154	25.6	283	297	0				
Diflufenican	Herbicide	3	33	9.76	9.76	9.76	9.76	0				
fenhexamid	Fungicide	3	33	2.59	2.59	2.59	2.59	0				
Fenpropidin	Fungicide	3	33	1.33	1.33	1.33	1.33	0				
Fludioxonil	Fungicide	3	67	140.7	16.2	265.2	279.0	0				
Fluopicolide	Fungicide	3	33	2.39	2.39	2.39	2.39	0				
Indoxacarb	Insecticide	3	33	2.90	2.90	2.90	2.90	0				
Linuron	Herbicide	3	33	1.10	1.10	1.10	1.10	0				
Metconazole	Fungicide	3	33	3.30	3.30	3.30	3.30	0				
Metrafenone	Fungicide	3	33	2.30	2.30	2.30	2.30	0				

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Metribuzin	Herbicide	3	33	2.30	2.30	2.30	2.30	0
Oxyfluorfen	Herbicide	3	33	3.00	3.00	3.00	3.00	0
penconazole	Fungicide	3	33	10.40	10.40	10.40	10.40	0
Pendimethalin	Herbicide	3	33	6.02	6.02	6.02	6.02	0
Prochloraz	Fungicide	3	33	1.85	1.85	1.85	1.85	0
Prothioconazole desthio	Fungicide	3	33	2.90	2.90	2.90	2.90	0
Pymetrozine	Insecticide	3	33	1.18	1.18	1.18	1.18	0
Pyrimethanil	Fungicide	3	33	1.21	1.21	1.21	1.21	0
Quinoxyfen	Fungicide	3	33	4.80	4.80	4.80	4.80	0
Spinosyn A	Insecticide	3	33	20.20	20.20	20.20	20.20	0
Spinosyn D	Insecticide	3	33	6.80	6.80	6.80	6.80	0
Spiroxamine	Fungicide	3	100	2.15	2.04	39.83	44.02	0
Tebuconazole	Fungicide	3	100	1.94	1.49	14.19	15.55	0
Terbuthylazine	Herbicide	3	33	1.30	1.30	1.30	1.30	0
Terbutryn	Herbicide	3	67	2.38	2.24	2.51	2.53	0
Thiacloprid	Insecticide	3	67	1.24	1.14	1.33	1.34	0

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile; [c]Max = Highest pesticide residue concentration detected.

*Table 3.46: The 10 pesticide residues detected with the highest concentration in **outdoor dust** of CSS-8 (Czech-Republic). The table shows the highest pesticide residue level detected, considering both farming type (total), conventional and organic farming.*

Total			Conventional			Organic		
Compound	Type of PPP	Concentration (ng/sample)	Compound	Type of PPP	Concentration (ng/sample)	Compound	Type of PPP	Concentration (ng/sample)
Folpet	Fungicide	1632	2.4-D-ethylhexyl	Herbicide	1014	Folpet	Fungicide	1239
2.4-D-ethylhexyl	n.a.	1044	Folpet	Fungicide	393	Phthalimid	Fungicide	175
Anthrachinon	n.a.	470	Anthrachinon	n.a.	390	Anthrachinon	n.a.	79.6
Phthalimid	Fungicide	282	Dimoxystrobin	Fungicide	160	Terbuthylazin	Herbicide	78.8
Dimoxystrobin	Fungicide	160	Fenpropidin	Fungicide	136	Diphenamid	Herbicide	75.7
Fenpropidin	Fungicide	136	Phthalimid	Fungicide	107	Iprovalicarb	Fungicide	51.6
Terbuthylazin	Herbicide	135	Pendimethalin	Herbicide	76.4	Fluopyram	Fungicide	47.8
Pendimethalin	Herbicide	114	Tebuconazol	Fungicide	62.0	Tefluthrin	Insecticide	47.8
Prothioconazol-desthio	Fungicide	107	Prothioconazol-desthio	Fungicide	61.2	Metolachlor	Herbicide	47.4

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3.13. Pesticide residues in environmental samples of CSS-9.

*Table 3.47: The 10 pesticide residues detected in **soils** of CSS-9 (The Netherlands) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
captan THPI	Fungicide	20	100	106	76.0	126	10	100	116	101	125	10	100	91.2	70.4	122
AMPA	Herbicide	20	35	94.2	94.2	94.2	10	60	94.2	94.2	94.2	10	10	<LOQ	<LOQ	<LOQ
Azoxystrobin	Fungicide	20	40	20.7	7.4	31.6	10	80	20.7	7.4	31.6	10	0	-	-	-
Bixafen	Fungicide	20	40	22.4	16.1	43.5	10	80	22.4	16.1	43.5	10	0	-	-	-
DDE p,p'	Insecticide	20	100	9.2	1.6	108	10	100	10.0	1.1	121	10	100	8.0	1.9	66.8
DDT p,p'	Insecticide	20	55	50.8	6.3	557	10	50	138	29.4	658	10	60	20.3	7.50	91.2
Epoxiconazole	Fungicide	20	30	25.7	23.7	37.1	10	60	25.7	23.7	37.1	10	0	-	-	-
Esfenvalerate	Insecticide	20	20	58.8	15.8	121	10	40	58.8	15.8	121	10	0	-	-	-
Fenvalerate	Insecticide	20	20	33.8	8.0	73.8	10	40	33.8	8.0	73.8	10	0	-	-	-
Fluopicolide	Fungicide	20	40	13.6	5.7	33.4	10	80	13.6	5.7	33.4	10	0	-	-	-
Hexachlorobenzene	Fungicide	20	100	3.7	1.4	14.3	10	100	3.6	1.1	22.0	10	100	3.75	1.45	11.5
Mandipropamid	Fungicide	20	35	20.7	14.2	196	10	70	20.7	14.2	196	10	0	-	-	-
Metobromuron	Herbicide	20	15	183	88.4	205	10	30	183	88.4	205	10	0	-	-	-
Metribuzin	Herbicide	20	30	39.6	15.4	90.2	10	60	39.6	15.4	90.2	10	0	-	-	-
Pirimicarb	Insecticide	20	5	118	118	118	10	10	118	118	118	10	0	-	-	-
Prosulfocarb	Herbicide	20	15	62.6	39.0	657	10	30	62.6	39.0	657	10	0	-	-	-

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

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*Table 3.48: The 10 pesticide residues detected in **surface waters** of CSS-9 (The Netherlands) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
AMPA	Herbicide	6	100	136	22.9	539	3	100	297	39.0	555	3	100	136	136	136
Glyphosate	Herbicide	6	100	243	27.4	1187	3	100	284	210	1182	3	100	78.2	17.3	822.2
Acetamiprid	Herbicide	6	17	90.7	90.7	90.7	3	0	-	-	-	3	33	90.7	90.7	90.7
Azoxystrobin	Fungicide	6	83	10.9	7.70	141	3	100	64.5	12.7	151	3	67	10.9	10.9	10.9
Azoxystrobin-O-demethyl	Fungicide	6	33	202	194	210	3	33	211	211	211	3	33	193	193	193
Bentazone	Herbicide	6	17	75.6	75.6	75.6	3	33	75.6	75.6	75.6	3	0	-	-	-
DDD o,p'	Insecticide	6	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDD p,p'	Insecticide	6	83	<LOQ	<LOQ	<LOQ	3	67	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDE p,p'	Insecticide	6	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDE, o,p'	Insecticide	6	83	<LOQ	<LOQ	<LOQ	3	67	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDT o,p'	Insecticide	6	83	<LOQ	<LOQ	<LOQ	3	67	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDT p,p'	Insecticide	6	83	<LOQ	<LOQ	<LOQ	3	67	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Dieldrin	Insecticide	6	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Dimethenamid (P)	Herbicide	6	17	127	127	127	3	33	127	127	127	3	0	-	-	-
Fluopyram benzamide	Fungicide	6	17	126	126	126	3	33	126	126	126	3	0	-	-	-
Hexachlorobenzene	Fungicide	6	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Lindane (gamma-HCH)	Insecticide	6	100	0.67	0.61	1.00	3	100	0.76	0.66	1.05	3	100	0.66	0.61	0.68
MCPA	Herbicide	6	83	34.6	18.0	89.7	3	100	34.6	22.3	77.1	3	67	54.5	20.9	88.0
Metamitron-desamino	Herbicide	6	33	51.3	37.1	65.4	3	67	51.3	37.1	65.4	3	0	-	-	-
Metobromuron	Herbicide	6	33	55.3	36.9	73.6	3	67	55.3	36.9	73.6	3	0	-	-	-
Metolachlor (S)	Herbicide	6	17	69.3	69.3	69.3	3	33	69.3	69.3	69.3	3	0	-	-	-
Prothioconazole desthio	Fungicide	6	83	18.7	13.0	36.0	3	100	25.0	15.0	37.3	3	67	15.7	13.0	18.4
Tebuconazole	Fungicide	6	83	17.0	13.4	39.9	3	100	17.0	13.4	39.9	3	67	<LOQ	<LOQ	<LOQ
Terbuthylazine	Herbicide	6	100	9.78	5.98	32.6	3	100	11.6	10.0	35.3	3	100	6.90	5.53	8.27

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Terbuthylazine-desethyl	Herbicide	6	100	36.1	6.08	62.4	3	100	36.6	35.6	43.5	3	100	13.8	4.53	63.0
Trifloxystrobin metabolite CGA	Fungicide	6	83	8.59	5.61	11.3	3	100	10.1	8.75	11.5	3	67	5.28	5.28	5.28

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

*Table 3.49: Detected pesticide residues in **sediments** of CSS-9 (The Netherlands). Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Conventional						Organic				
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**Max (µg/kg d.w)[c]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**
Glyphosate	Herbicide	3	67	17.3	11.0	23.7	24.4	2	0	-	-	-
AMPA	Herbicide	3	67	20.1	15.5	24.6	25.1	2	50	20.8	20.8	20.8
Azoxystrobin	Fungicide	3	33	1.5	1.5	1.5	1.5	2	0	-	-	-
Bixafen	Fungicide	3	33	2.00	2.00	2.00	2.00	2	0	-	-	-
Boscalid	Fungicide	3	33	3.8	3.8	3.8	3.8	2	0	-	-	-
Fluopicolide	Fungicide	3	33	2.1	2.1	2.1	2.1	2	0	-	-	-
Fluxapyroxad	Fungicide	3	33	1.2	1.2	1.2	1.2	2	0	-	-	-
Imazalil	Fungicide	3	67	6	1.86	10.1	10.6	2	0	-	-	-
Pencycuron	Fungicide	3	67	7.45	2.01	12.90	13.5	2	0	-	-	-
Prothioconazole desthio	Fungicide	3	33	1.80	1.80	1.80	1.80	2	0	-	-	-
Tebuconazole	Fungicide	3	33	2.80	2.80	2.80	2.80	2	0	-	-	-
Thiabendazole	Insecticide	3	33	6.60	6.60	6.60	6.60	2	0	-	-	-

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile; [c]Max = Highest pesticide residue concentration detected.

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*Table 3.50: The 10 pesticide residues detected in **outdoor dust** of CSS-9 (The Netherlands) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue analyses are separated by farming type: conventional farming, organic farming and both farming type (=total).*

Total			Conventional			Organic		
Compound	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**
Prosulfocarb	Herbicide	18814	Prosulfocarb	Herbicide	4’378	Prosulfocarb	Herbicide	14’436
Pirimicarb	Insecticide	5043	Pendimethalin	Herbicide	247	Pirimicarb	Insecticide	5’043
Metobromuron	Herbicide	1247	Diphenamid	Herbicide	222	Pirimicarbdesmethyl	Insecticide	1’222
Pirimicarbdesmethyl	Insecticide	1222	Metobromuron	Herbicide	171	Chlorpyrifos-et	n.a.	1’111
Chlorpyrifos-et	n.a.	1111	Ethofumesat	Herbicide	140	Metobromuron	Herbicide	1’076
Ethofumesat	Herbicide	993	HCB	Fungicide	113	Ethofumesat	Herbicide	852
Pirimicarbdesme-form	Insecticide	696	Prothioconazol-desthio	Fungicide	108	Pirimicarbdesme-form	Insecticide	696
Flutolanil	Fungicide	677	Anthrachinon	n.a.	60.5	Flutolanil	Fungicide	677
Pendimethalin	Herbicide	580	Metolachlor	Herbicide	60.3	Pendimethalin	Herbicide	333

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3.14. Pesticide residues in environmental samples of CSS-10.

*Table 3.51: The 10 pesticide residues detected in **soils** of CSS-10 (Denmark) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic			
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**
AMPA	Herbicide	16	81	115	62.7	336	8	100	230	62.7	346	8	63	72.9	69.0
Glyphosate	Herbicide	16	50	<LOQ	<LOQ	<LOQ	8	75	<LOQ	<LOQ	<LOQ	8	25	<LOQ	<LOQ
Azoxystrobin	Fungicide	20	10	<LOQ	<LOQ	<LOQ	12	17	<LOQ	<LOQ	<LOQ	8	0	-	-
Boscalid	Fungicide	20	30	7.68	7.41	58.8	12	50	7.68	7.41	58.8	8	0	-	-
captan THPI	Fungicide	20	100	99.5	77.5	123	12	100	94.1	77.1	126	8	100	105	87.3
DDD p,p'	Insecticide	20	5	0.80	0.80	0.80	12	8	0.80	0.80	0.80	8	0	-	-
DDE p,p'	Insecticide	20	100	0.65	0.39	2.05	12	100	0.65	0.50	2.01	8	100	0.70	0.27
DDT p,p'	Insecticide	20	10	8.15	2.71	13.6	12	17	8.15	2.71	13.6	8	0	-	-
Diflufenican	Herbicide	20	50	17.6	10.1	26.0	12	83	17.6	10.1	26.0	8	0	-	-
Esfenvalerate	Insecticide	20	5	8.30	8.30	8.30	12	8	8.30	8.30	8.30	8	0	-	-
Fenpropidin	Fungicide	20	10	<LOQ	<LOQ	<LOQ	12	17	<LOQ	<LOQ	<LOQ	8	0	-	-
Fluopyram	Fungicide	20	30	7.76	7.19	10.8	12	50	7.76	7.19	10.8	8	0	-	-
Hexachlorobenzene	Fungicide	20	60	0.55	0.36	4.97	12	67	0.55	0.40	5.09	8	50	0.55	0.33
Pendimethalin	Herbicide	20	10	48.7	48.7	48.7	12	8	48.7	48.7	48.7	8	13	<LOQ	<LOQ
Propiconazole	Fungicide	20	5	7.96	7.96	7.96	12	8	7.96	7.96	7.96	8	0	-	-
Prosulfocarb	Herbicide	20	20	<LOQ	<LOQ	<LOQ	12	33	<LOQ	<LOQ	<LOQ	8	0	-	-
tau-Fluvalinate	Insecticide	20	10	<LOQ	<LOQ	<LOQ	12	17	<LOQ	<LOQ	<LOQ	8	0	-	-

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

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*Table 3.52: The 10 pesticide residues detected in **surface waters** of CSS-10 (Denmark) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
Glyphosate	Herbicide	3	100	322	207	437	2	100	194	194	194	1	100	450	450	450
AMPA	Herbicide	3	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ
DDD p,p'	Insecticide	3	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ
DDE p,p'	Insecticide	3	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ
DDT o,p'	Insecticide	3	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ
DDT p,p'	Insecticide	3	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ
Dieldrin	Insecticide	3	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ
Fluopyram	Fungicide	3	33	5.17	5.17	5.17	2	0	-	-	-	1	100	5.17	5.17	5.17
Hexachlorobenzene	Fungicide	3	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ
Lindane (gamma-HCH)	Insecticide	3	100	0.67	0.63	0.69	2	100	0.66	0.63	0.69	1	100	0.67	0.67	0.67
Metalaxyl Metabolite CGA 62826 (87764-37-2)	Fungicide	3	33	17.4	17.4	17.4	2	0	-	-	-	1	100	17.4	17.4	17.4
Piperonyl butoxide	Insecticide	3	100	15.4	14.2	27.1	2	100	21.3	14.8	27.7	1	100	15.4	15.4	15.4
Propiconazole	Fungicide	3	33	32.6	32.6	32.6	2	50	32.6	32.6	32.6	1	0	-	-	-
Prosulfocarb	Herbicide	3	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	1	100	<LOQ	<LOQ	<LOQ

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

*Table 3.53: Detected pesticide residues in **sediments** of CSS-10 (Denmark). Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Conventional						Organic					
PPP Compound		**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**Max (µg/kg d.w)[c]**	**n**	**% positive samples**	**Median (µg/kg d.w)**	**p5 (µg/kg d.w)[a]**	**p95 (µg/kg d.w)[b]**	**Max (µg/kg d.w)[c]**
Glyphosate	Herbicide	2	50	11.3	11.3	11.3	11.3	1	100	34.5	34.5	34.5	34.5

[a]p5 = 5 % percentile; [b]p95 = 95 % percentile; [c]Max = Highest pesticide residue concentration detected.

*Table 3.54: The 10 pesticide residues detected in **outdoor dust** of CSS-10 (Denmark) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue analyses are separated by farming type: conventional farming, organic farming and both farming type (=total).*

Total			Conventional			Organic		
Compound	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**	**Compound**	**Type of PPP**	**Concentration (ng/sample)**
Anthrachinon	n.a.	532.8	Chlorthalonil	Fungicide	191	Anthrachinon	n.a.	433
Chlorthalonil	Fungicide	327.4	Anthrachinon	n.a.	99.4	Chlorthalonil	Fungicide	136
Prothioconazol-desthio	Fungicide	140.7	2.4-D-ethylhexyl	n.a.	83.4	Prothioconazol-desthio	Fungicide	68.8
2.4-D-ethylhexyl	n.a.	130.0	Prosulfocarb	Herbicide	81.3	Metobromuron	Herbicide	66.8
Metobromuron	Herbicide	114.8	Prothioconazol-desthio	Fungicide	71.9	2.4-D-ethylhexyl	n.a.	46.5
Prosulfocarb	Herbicide	93.9	Bentazon	Herbicide	48.7	Bentazon	Herbicide	14.8
Bentazon	Herbicide	63.5	Metobromuron	Herbicide	47.9	Ethofumesat	Herbicide	14.7

Isoxadifen-et	n.a.	43.5	Isoxadifen-et	n.a.	43.5	Fluopyram	Fungicide	14.5
Fluopyram	Fungicide	38.2	MCPA	Herbicide	32.1	Pentachloranisol	n.a.	13.7
MCPA	Herbicide	32.1	Aclonifen	Herbicide	25.8	Prosulfocarb	Herbicide	12.6

3.15. Pesticide residues in environmental samples of CSS-11.

*Table 3.55: The 10 pesticide residues detected in **surface waters** of CSS-11 (Argentina) with the highest frequency, highest singular concentration and highest median concentration. Pesticide residue are presented per farming type: conventional farming, organic farming and both farming type (=total). Pesticide residues that were below the LOQ were not included except for the frequency (n) and % positive samples calculation.*

		Total					Conventional					Organic				
PPP Compound		**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**	**n**	**% positive samples**	**Median (ng/L)**	**p5 (ng/L)[a]**	**p95 (ng/L)[b]**
Glyphosate	Herbicide	6	100	205	163	475	3	100	219	180	259	3	100	191	162	510
2,4-D (free)	Herbicide	6	100	87.1	35.2	254	3	100	92.0	83.1	252	3	100	58.8	30.5	193
AMPA	Herbicide	6	83	199	86.8	253	3	100	167	83.6	250	3	67	199	199	199
Atrazine	Herbicide	6	100	112	24.3	294	3	100	157	69.4	259	3	100	67.4	18.0	278
Cyproconazole	Fungicide	6	83	19.8	9.4	30.1	3	100	8.24	8.24	8.24	3	67	31.3	31.3	31.3
DDD o,p'	Insecticide	5	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDD p,p'	Insecticide	5	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDE p,p'	Insecticide	5	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDE o,p'	Insecticide	5	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDT o,p'	Insecticide	5	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
DDT p,p'	Insecticide	5	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Dieldrin	Insecticide	5	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Epoxiconazole	Fungicide	6	100	7.01	7.01	7.01	3	100	<LOQ	<LOQ	<LOQ	3	100	7.0	7.0	7.0
Hexachlorobenzene	Fungicide	5	100	<LOQ	<LOQ	<LOQ	2	100	<LOQ	<LOQ	<LOQ	3	100	<LOQ	<LOQ	<LOQ
Lindane (gamma-HCH)	Insecticide	5	100	1.08	0.72	1.63	2	100	0.93	0.70	1.16	3	100	1.08	0.95	1.68
MCPA	Herbicide	6	33	115	88.1	142	3	33	145	145	145	3	33	85.1	85.1	85.1

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Metolachlor (S)	Herbicide	6	100	23.5	11.2	3648	3	100	39.1	23.1	4370	3	100	21.3	9.2	25.2
Metolachlor oxanilic acid	Herbicide	6	33	39.1	36.4	41.8	3	67	39.1	36.4	41.8	3	0	-	-	-
Metribuzin	Herbicide	6	17	49.1	49.1	49.1	3	33	49.1	49.1	49.1	3	0	-	-	-
Prothioconazole	Fungicide	6	33	24.3	24.3	24.3	3	33	<LOQ	<LOQ	<LOQ	3	33	24.3	24.3	24.3
Trifloxystrobin metabolite CGA	Fungicide	6	83	18.4	8.9	27.9	3	100	7.9	7.9	7.9	3	67	29.0	29.0	29.0

If the 10th highest detection frequency was the same for more than one compound all have been included. [a]p5 = 5 % percentile; [b]p95 = 95 % percentile.

3.6. Summary of results of environmental samples

DDE (metabolite of not approved a. S) and Captan THPI (approved a. S) appeared to be the highest frequently detected compounds in soils from all case study sites. Except for CSS-4, 6 and 7, DDE was detected 100% among all samples. Captan THPI also has a 100% detection rate among samples except for CSS 5 and 6, but still with an average above 90% positive detection rate regarding all CSS. These two compounds also contributed to a high concentration in all CSS, next to Dieldrin (not approved a. S) and AMPA (metabolite of approved a. S) as the compounds with the highest concentration in CSS 2, 4, 5, 6, 7, 9. In general, organic farms have less compounds detected compared to conventional farms.

Regarding surface waters in all study sites, Glyphosate (approved a. S), Lindane (not approved a. S), and Hexachlorobenzene (approved a. S) were detected in 100% of all CSS, and Dieldrin (not approved a. S) was 100% detected in 10 out of 11 CSS. These compounds usually also appeared to have a higher concentration in the water samples. However, Glyphosate, AMPA and Boscalid (approved a. S) are the most commonly seen compounds that contribute to the highest concentration in most surface waters of CSSs.

For sediments, Glyphosate (approved a. S) together with its metabolites AMPA, were detected as the compounds with the highest concentration in seven out of eight case study sites (not in CSS-6 Croatia). There are less compounds detected in organic farms than in conventional farms in general.

Compounds detected in outdoor dusts vary from sites to sites. In general, fungicide such as Phthalimid (approved a. S) and Folpet (metabolite of approved a. S) are mostly detected in CSS, and usually they contribute to a high concentration in the sample. Anthrachinon (approved a. S), which is a repellence, appeared in all CSS's dust samples. There is no clear evidence between conventional and organic farms.

4 Results Human samples

Table 4a provides a summary of the number of human samples received and analysed. At the time of reporting, not all samples and analyses were completed. The reason is a late establishment of the final target list of pesticides and metabolites to be included in the analysis, the long delivery time of some of the individual reference standards needed for the analysis, and the very high number of human samples to be analysed. Covid related restrictions in the laboratory also contributed to part of the backlog.

Table 4a

		Samples analysed	
Human	**samples received**	**LC&GC multi**	**Glyphosate/AMPA**
Faeces	542	320	0
urine	552	0	200
blood (serum)	547	180	169

** pooled plasma samples were prepared and analyses outsourced as prescreen

Human blood (serum)

Due to the inability of the designated laboratory within the SPRINT consortium to analyse the blood samples in time, it was decided to contract out part of these analyses. This way, a good first pre-view on possible findings was obtained and consequential delays for other activities could be prevented as much as possible.

For glyphosate and AMPA, a selection of in total 169 individual serum samples was analysed, with emphasis on subjects more likely to be exposed through their living environment (farmers and neighbours). In none of the samples glyphosate or AMPA were detected above a detection level of 0.05 ng/mL and 0.1 ng/mL, respectively.

For the wide-scope analysis through multi-methods, it was decided to prepare pooled samples (of 3 samples each) for the different populations: farmers, neighbours, and consumers, and within these subgroups conventional/organic. In total 180 pooled samples, for 7 CSS (CZ, DK, FR, HR, NL, PT, SL) were analysed for 144 of the 209 prioritized pesticides/metabolites in SPRINT. The other 63 pesticides/metabolites were not included in the available multi-methods of the contract laboratory.

A compilation of the findings is presented below (Tables 4.1.1 – 4.1.6) for three groups of the SPRINT participants: all, farmers, and neighbours & consumers. For each group findings have been split in total, conventional, and organic and male and female based on the available metadata. In Table 4b the top 10 detected pesticides/metabolites are shown. The results should be considered as preliminary data. Analysis of individual samples, including as many as possible of the remaining 63 pesticides is in progress.

Overall, 28 pesticides were detected, of which 19 only once. The persistent and long-banned organochlorine pesticide metabolite p,p′-DDE was detected in almost all samples (95%). Fipronil sulfone (metabolite of fipronil) was detected in 24% of the samples. Fipronil is no longer approved as a crop protection product in the EU but may still be used as biocide or parasiticide in animals/pets. Hexachlorobenzene which is a persistent organochlorine pesticide was detected in 6% of the samples. The other pesticides are mostly approved pesticides and were detected only incidentally (five times or less). For the top 3, stratification between conventional and organic farming did not show any

clear differences nor did stratification between males and females (Table 4.1.2). A small difference for Thiadoprid was indicated, i.e. 3% among females and 0% among males, but this may be an incidental finding.
Looking at only farmers, the top 3 were the same. For the other pesticides there was only partial overlap with those detected in neighbours/consumers, but as mentioned, these were only incidental detects in both groups.
Since the dataset is preliminary and not complete yet, no further efforts were made for stratification and significance testing of differences at this stage.

Table 4b Top 10* most frequently detected pesticides in human blood (serum).

All 180 pooled samples		Approved a)	Total (180)	Conv (106)	Org (74)
DDE p,p'	Insecticide	no	95.0%	95.3%	94.6%
Fipronil sulfone	Insecticide	no	24.4%	22.6%	27.0%
Hexachlorobenzene	Fungicide	no	6.1%	5.7%	6.8%
iprovalicarb	Fungicide	yes	2.8%	1.9%	4.1%
Dicloran	Fungicide	no	2.2%	2.8%	1.4%
Thiacloprid	Insecticide	no	1.7%	1.9%	1.4%
Cyantraniliprole	Insecticide	yes	1.1%	0.9%	1.4%
Cyprodinil	Fungicide	yes	1.1%	0.9%	1.4%
Fluxapyroxad	Fungicide	yes	1.1%	1.9%	0.0%
*	IN/FU/HE		0.6%		

* for the total 0.6% corresponds with detection in only one sample. There were 19 pesticides detected once.
a) Legal status according to the EC Regulation 1107/2009

In human blood, levels were generally below 1 ng/mL. Incidental higher concentrations were observed for mecoprop (29 ng/mL), tau-fluvalinate (2 ng/mL), deltamethrin (1.9 ng/mL), and Cyflutrin (beta) (Table 4c). The most frequently detected pesticide in human blood samples (DDE p,p') had a median level of 0.38 ng/mL based on the samples that were >LOQ. Additionally, for DDE p,p' there was no clear difference between levels among participants classified as conventional or organic.

Table 4c. Top 10 highest level pesticides in human blood (serum).

			Median of samples > LOQ (ng/mL)		
All 180 pooled samples		**Detection frequency**	**Total (180)**	**Conv (106)**	**Org (74)**
Mecoprop (P)	Herbicide	0.6%	29.00	29.00	
tau-Fluvalinate	Insecticide	0.6%	1.97		1.97
Deltamethrin	Insecticide	0.6%	1.89		1.89
Cyfluthrin (beta)	Insecticide	0.6%	1.14	1.14	
captan THPI	Fungicide	0.6%	0.87	0.87	
fenhexamid	Fungicide	0.6%	0.66	0.66	
2,4-D (free)	Herbicide	0.6%	0.55	0.55	
Pyraflufen-ethyl	Herbicide	0.6%	0.42	0.42	
DDE p,p'	Insecticide	95.0%	0.38	0.36	0.39

Raw data pr CSS can be found in Results WP2 - Analytics - Results D2.3 - Database - Files - SPRINT project (sprint-data.eu)

4.1 Human blood PPP concentrations across all measured CSS stratified by conventional and organic farming and male and female gender.

Table 4.1.1 Human serum PPP (ng/mL) across all measured CSS and stratified by conventional and organic farming.

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	180	0,0%				106	0,0%				74	0,0%			
AMPA	Herbicide	180	0,0%				106	0,0%				74	0,0%			
2,4-D (free)	Herbicide	180	0,6%	0,55	0,55	0,55	106	0,9%	0,55	0,55	0,55	74	0,0%			
Acetamiprid	Insecticide	180	0,6%	0,02	0,02	0,02	106	0,9%	0,02	0,02	0,02	74	0,0%			
Aclonifen	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Ametoctradin	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Atrazine	Herbicide	180	0,0%				106	0,0%				74	0,0%			
azadirachtin	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Azoxystrobin	Fungicide	180	0,0%				106	0,0%				74	0,0%			
bifenthrin	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Bixafen	Fungicide	180	0,6%	0,04	0,04	0,04	106	0,9%	0,04	0,04	0,04	74	0,0%			
Boscalid	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Bromoxynil	Herbicide	180	0,0%				106	0,0%				74	0,0%			
captan THPI	Fungicide	180	0,6%	0,87	0,87	0,87	106	0,9%	0,87	0,87	0,87	74	0,0%			
Carbendazim	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Chlorantraniliprole	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Chlorothalonil	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Chlorpropham	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Chlorpyrifos	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Chlorpyrifos-methyl	Insecticide	180	0,0%				106	0,0%				74	0,0%			

Table 4.1.1 continued Human blood PPP (ng/mL) across all measured CSS and stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Clomazone	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Clothianidin	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Cyantraniliprole	Insecticide	180	1,1%	0,04	0,03	0,04	106	0,9%	0,04	0,04	0,04	74	1,4%	0,03	0,03	0,03
cyflufenamide	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Cyfluthrin (beta-cyfluthrin)	Insecticide	180	0,6%	1,14	1,14	1,14	106	0,9%	1,14	1,14	1,14	74	0,0%			
Cypermethrin	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Cyproconazole	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Cyprodinil	Fungicide	180	1,1%	0,26	0,21	0,30	106	0,9%	0,21	0,21	0,21	74	1,4%	0,30	0,30	0,30
DDE p,p'	insecticide	180	95,0%	0,38	0,14	1,54	106	95,3%	0,36	0,13	1,52	74	94,6%	0,39	0,15	1,43
DDE, o,p'	insecticide	180	0,0%				106	0,0%				74	0,0%			
DDT o,p'	insecticide	180	0,0%				106	0,0%				74	0,0%			
DDT p,p'	insecticide	180	0,0%				106	0,0%				74	0,0%			
Deltamethrin	insecticide	180	0,6%	1,89	1,89	1,89	106	0,0%				74	1,4%	1,89	1,89	1,89
Dicloran	Fungicide	180	2,2%	0,27	0,23	0,73	106	2,8%	0,26	0,23	0,28	74	1,4%	0,81	0,81	0,81
Dieldrin	insecticide	180	0,0%				106	0,0%				74	0,0%			
Difenoconazole	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Diflufenican	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Dimethoate	insecticide	180	0,0%				106	0,0%				74	0,0%			
Dimethomorph	Fungicide	180	0,6%	0,14	0,14	0,14	106	0,0%				74	1,4%	0,14	0,14	0,14
Dimoxystrobin	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Dinotefuran	insecticide	180	0,0%				106	0,0%				74	0,0%			
Diuron	Herbicide	180	0,6%	0,04	0,04	0,04	106	0,9%	0,04	0,04	0,04	74	0,0%			
emamectin	insecticide	180	0,0%				106	0,0%				74	0,0%			
Esfenvalerate	insecticide	180	0,0%				106	0,0%				74	0,0%			
Ethofumesate	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Famoxadone	Fungicide	180	0,0%				106	0,0%				74	0,0%			
fenbuconazole	Fungicide	180	0,0%				106	0,0%				74	0,0%			

Table 4.1.1 continued Human blood PPP (ng/mL) across all measured CSS and stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
fenhexamid	Fungicide	180	0,6%	0,66	0,66	0,66	106	0,9%	0,66	0,66	0,66	74	0,0%			
Fenoxycarb	insecticide	180	0,0%				106	0,0%				74	0,0%			
Fenpropidin	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Fenvalerate	insecticide	180	0,0%				106	0,0%				74	0,0%			
Fipronil	insecticide	180	0,0%				106	0,0%				74	0,0%			
Fipronil sulfone	insecticide	180	24,4%	0,12	0,06	0,34	106	22,6%	0,13	0,07	0,35	74	27,0%	0,11	0,05	0,25
flazasulfuron	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Flonicamid	insecticide	180	0,0%				106	0,0%				74	0,0%			
Florasulam	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Fluazinam	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Fludioxonil	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Flufenacet	Herbicide	180	0,0%				106	0,0%				74	0,0%			
flumioxazine	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Fluopicolide	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Fluopyram	Fungicide	180	0,6%	0,10	0,10	0,10	106	0,0%				74	1,4%	0,10	0,10	0,10
Fluoxastrobin	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Flusilazole	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Fluxapyroxad	Fungicide	180	1,1%	0,13	0,08	0,18	106	1,9%	0,13	0,08	0,18	74	0,0%			
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Foramsulfuron	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Hexachlorobenzene	Fungicide	180	6,1%	0,25	0,12	0,77	106	5,7%	0,32	0,12	0,90	74	6,8%	0,20	0,12	0,39
Imazalil	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Imidacloprid	Insecticide	180	0,6%	0,04	0,04	0,04	106	0,0%				74	1,4%	0,04	0,04	0,04
Indoxacarb	Insecticide	180	0,0%				106	0,0%				74	0,0%			
iprovalicarb	Fungicide	180	2,8%	0,14	0,10	0,26	106	1,9%	0,14	0,11	0,16	74	4,1%	0,14	0,10	0,27
Isoproturon	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Isoxaben	Herbicide	180	0,0%				106	0,0%				74	0,0%			
lambda-Cyhalothrin	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Lindane (gamma-HCH)	Insecticide	180	0,0%				106	0,0%				74	0,0%			

Table 4.1.1 continued Human blood PPP (ng/mL) across all measured CSS and stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Mandipropamid	Fungicide	180	0,0%				106	0,0%				74	0,0%			
MCPA	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Mecoprop (P)	Herbicide	180	0,6%	29,00	29,00	29,00	106	0,9%	29,00	29,00	29,00	74	0,0%			
meptyldinocap	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Metalaxyl (M)	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Metamitron	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Metazachlor	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Metconazole	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Methiocarb	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Methiocarb sulfon	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Methiocarb sulfoxide	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Metolachlor (S)	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Metrafenone	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Metribuzin	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Metsulfuron-methyl	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Myclobutanil	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Napropamide (M)	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Nicosulfuron	Herbicide	180	0,0%				106	0,0%				74	0,0%			
oryzalin	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Oxadixyl	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Oxyfluorfen	Herbicide	180	0,0%				106	0,0%				74	0,0%			
penconazole	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Pencycuron	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Pendimethalin	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Permethrin	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Phosmet	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Phoxim	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Piperonyl butoxide	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Pirimicarb	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Pirimicarb desmethyl-	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Pirimiphos-methyl	Insecticide	180	0,0%				106	0,0%				74	0,0%			

Table 4.1.1 continued Human blood PPP (ng/mL) across all measured CSS and stratified by conventional and organic farming

		Total					Conventional					Organic				
PPP		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Prochloraz	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Prometryn	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Propamocarb	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Propaquizafop	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Propiconazole	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Propoxur	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Propyzamide	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Prosulfocarb	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Prothioconazole	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Prothioconazole desthio	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Pymetrozine	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Pyraclostrobin	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Pyraflufen-ethyl	Herbicide	180	0,6%	0,42	0,42	0,42	106	0,9%	0,42	0,42	0,42	74	0,0%			
Pyriproxyfen	Insecticide	180	0,6%	0,27	0,27	0,27	106	0,9%	0,27	0,27	0,27	74	0,0%			
Quinoxyfen	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Spinetoram	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Spinosyn A	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Spinosyn D	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Spirotetramat	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Spirotetramat-enol	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Spirotetramat-enol-glucoside	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Spirotetramat-keto-hydroxy	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Spirotetramat-mono-hydroxy	Insecticide	180	0,0%				106	0,0%				74	0,0%			
tau-Fluvalinate	Insecticide	180	0,6%	1,97	1,97	1,97	106	0,0%				74	1,4%	1,97	1,97	1,97
Tebuconazole	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Terbuthylazine	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Terbutryn	Herbicide	180	0,0%				106	0,0%				74	0,0%			

Table 4.1.1 continued Human blood PPP (ng/mL) across all measured CSS and stratified by conventional and organic farming

		Total					Conventional					Organic				
PPP		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Tetraconazole	Fungicide	180	0,6%	0,05	0,05	0,05	106	0,9%	0,05	0,05	0,05	74	0,0%			
Thiabendazole	Insecticide	180	0,0%				106	0,0%				74	0,0%			
Thiacloprid	Insecticide	180	1,7%	0,03	0,03	0,05	106	1,9%	0,04	0,03	0,05	74	1,4%	0,03	0,03	0,03
Thiamethoxam	Insecticide	180	0,6%	0,03	0,03	0,03	106	0,9%	0,03	0,03	0,03	74	0,0%			
Thiencarbazone-methyl	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Thiophanate-methyl	Fungicide	180	0,6%	0,14	0,14	0,14	106	0,0%				74	1,4%	0,14	0,14	0,14
Tolylfluanid	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Tolylfluanid metabolite DMST	Fungicide	180	0,0%				106	0,0%				74	0,0%			
Tri-allate	Herbicide	180	0,0%				106	0,0%				74	0,0%			
Trifloxystrobin	Fungicide	180	0,0%				106	0,0%				74	0,0%			
zoxamid	Fungicide	180	0,0%				106	0,0%				74	0,0%			

Table 4.1.2 Human blood PPP (ng/mL) across all measured CSS and stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
AMPA	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
2,4-D (free)	Herbicide	180	0.6	0.55	0.55	0.55	89	0.0	-	-	-	91	1.1	0.55	0.55	0.55
Acetamiprid	Insecticide	180	0.6	0.02	0.02	0.02	89	0.0	-	-	-	91	1.1	0.02	0.02	0.02
Aclonifen	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Ametoctradin	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Atrazine	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
azadirachtin	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Azoxystrobin	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
bifenthrin	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Bixafen	Fungicide	180	0.6	0.04	0.04	0.04	89	0.0	-	-	-	91	1.1	0.04	0.04	0.04
Boscalid	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Bromoxynil	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
captan THPI	Fungicide	180	0.6	0.87	0.87	0.87	89	1.1	0.87	0.87	0.87	91	0.0	-	-	-
Carbendazim	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
carfentrazone	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
carfentrazone-ethyl	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Chlorantraniliprole	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Chlorothalonil	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Chlorpropham	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Chlorpyrifos	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Chlorpyrifos -desethyl	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Chlorpyrifos-methyl	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Clomazone	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Clothianidin	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Cyantraniliprole	Insecticide	180	1.1	0.04	0.03	0.04	89	1.1	0.04	0.04	0.04	91	1.1	0.03	0.03	0.03

Table 4.1.2 continued Human blood PPP (ng/mL) across all measured CSS and stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
cyflufenamide	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Cyfluthrin (beta-cyfluthrin)	Insecticide	180	0.6	1.1	1.1	1.1	89	0.0	-	-	-	91	1.1	1.1	1.1	1.1
Cypermethrin	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Cyproconazole	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Cyprodinil	Fungicide	180	1.1	0.26	0.21	0.30	89	0.0	-	-	-	91	2.2	0.26	0.21	0.30
DDE p,p'	insecticide	180	95.0	0.38	0.14	1.54	89	95.5	0.36	0.14	1.93	91	94.5	0.40	0.14	1.25
DDE, o,p'	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
DDT o,p'	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
DDT p,p'	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Deltamethrin	insecticide	180	0.6	1.9	1.9	1.9	89	1.1	1.9	1.9	1.9	91	0.0	-	-	-
Dicloran	Fungicide	180	2.2	0.27	0.23	0.73	89	2.2	0.25	0.23	0.26	91	2.2	0.55	0.31	0.78
Dieldrin	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Difenoconazole	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Diflufenican	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Dimethoate	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Dimethomorph	Fungicide	180	0.6	0.14	0.14	0.14	89	1.1	0.14	0.14	0.14	91	0.0	-	-	-
Dimoxystrobin	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Dinotefuran	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Diuron	Herbicide	180	0.6	0.04	0.04	0.04	89	0.0	-	-	-	91	1.1	0.04	0.04	0.04
emamectin	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Esfenvalerate	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Ethofumesate	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Famoxadone	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
fenbuconazole	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
fenhexamid	Fungicide	180	0.6	0.66	0.66	0.66	89	1.1	0.66	0.66	0.66	91	0.0	-	-	-
Fenoxycarb	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Fenpropidin	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Fenvalerate	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Fipronil	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-

Table 4.1.2 continued Human blood PPP (ng/mL) across all measured CSS and stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Fipronil sulfone	insecticide	180	24.4	0.12	0.06	0.34	89	22.5	0.13	0.06	0.36	91	26.4	0.11	0.05	0.24
flazasulfuron	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Flonicamid	insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Florasulam	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Fluazinam	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Fludioxonil	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Flufenacet	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
flumioxazine	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Fluopicolide	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Fluopyram	Fungicide	180	0.6	0.10	0.10	0.10	89	0.0	-	-	-	91	1.1	0.10	0.10	0.10
Fluoxastrobin	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Flusilazole	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Fluxapyroxad	Fungicide	180	1.1	0.13	0.08	0.18	89	1.1	0.19	0.19	0.19	91	1.1	0.07	0.07	0.07
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Foramsulfuron	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Hexachlorobenzene	Fungicide	180	6.1	0.25	0.12	0.77	89	6.7	0.28	0.12	0.88	91	5.5	0.20	0.13	0.47
Imazalil	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Imidacloprid	Insecticide	180	0.6	0.04	0.04	0.04	89	1.1	0.04	0.04	0.04	91	0.0	-	-	-
Indoxacarb	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
iprovalicarb	Fungicide	180	2.8	0.14	0.10	0.26	89	4.5	0.14	0.10	0.26	91	1.1	0.14	0.14	0.14
Isoproturon	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Isoxaben	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
lambda-Cyhalothrin	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Lindane (gamma-HCH)	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Mandipropamid	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
MCPA	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Mecoprop (P)	Herbicide	180	0.6	29.0	29.0	29.0	89	0.0	-	-	-	91	1.1	29.0	29.0	29.0
meptyldinocap	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Metalaxyl (M)	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-

Table 4.1.2 continued Human blood PPP (ng/mL) across all measured CSS and stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Metamitron	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Metazachlor	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Metconazole	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Methiocarb	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Methiocarb sulfon	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Methiocarb sulfoxide	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Metobromuron	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Metolachlor (S)	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Metrafenone	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Metribuzin	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Metsulfuron-methyl	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Myclobutanil	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Napropamide (M)	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Nicosulfuron	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
oryzalin	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Oxadixyl	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Oxyfluorfen	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
penconazole	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Pencycuron	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Pendimethalin	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Permethrin	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Phosmet	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Phoxim	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Piperonyl butoxide	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Pirimicarb	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Pirimicarb desmethyl-	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Pirimiphos-methyl	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Prochloraz	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Prometryn	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Propamocarb	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-

Table 4.1.2 continued Human blood PPP (ng/mL) across all measured CSS and stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Propaquizafop	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Propiconazole	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Propoxur	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Propyzamide	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Prosulfocarb	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Prothioconazole	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Prothioconazole desthio	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Pymetrozine	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Pyraclostrobin	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Pyraflufen-ethyl	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Pyrimethanil	Fungicide	180	0.6	0.42	0.42	0.42	89	1.1	0.42	0.42	0.42	91	0.0	-	-	-
Pyriproxyfen	Insecticide	180	0.6	0.27	0.27	0.27	89	0.0	-	-	-	91	1.1	0.27	0.27	0.27
Pyroxsulam	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Quinoxyfen	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Spinetoram	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Spinosyn A	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Spinosyn D	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Spirotetramat	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Spirotetramat-enol	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Spirotetramat-enol-glucoside	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Spirotetramat-keto-hydroxy	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Spirotetramat-mono-hydroxy	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
tau-Fluvalinate	Insecticide	180	0.6	2.0	2.0	2.0	89	0.0	-	-	-	91	1.1	2.0	2.0	2.0
Tebuconazole	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Terbuthylazine	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Terbutryn	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Tetraconazole	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-

Table 4.1.2 continued Human blood PPP (ng/mL) across all measured CSS and stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Thiabendazole	Insecticide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Thiacloprid	Insecticide	180	1.7	0.03	0.03	0.05	89	0.0	-	-	-	91	3.3	0.03	0.03	0.05
Thiamethoxam	Insecticide	180	0.6	0.03	0.03	0.03	89	0.0	-	-	-	91	1.1	0.03	0.03	0.03
Thiencarbazone-methyl	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Thiophanate-methyl	Fungicide	180	0.6	0.14	0.14	0.14	89	0.0	-	-	-	91	1.1	0.14	0.14	0.14
Tolylfluanid	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Tolylfluanid metabolite DMST	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Tri-allate	Herbicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-
Trifloxystrobin	Fungicide	180	0.0	-	-	-	89	0.0	-	-	-	91	0.0	-	-	-

Table 4.1.3 Human blood PPP (ng/mL) across all measured CSS for farmers stratified by conventional and organic farming.

		Total					Conventional					Organic				
PPP		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	68	0,0%				33	0,0%				35	0,0%			
AMPA	Herbicide	68	0,0%				33	0,0%				35	0,0%			
2,4-D (free)	Herbicide	68	1,5%	0,55	0,55	0,55	33	3,0%	0,55	0,55	0,55	35	0,0%			
Acetamiprid	Insecticide	68	1,5%	0,02	0,02	0,02	33	3,0%	0,02	0,02	0,02	35	0,0%			
Aclonifen	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Ametoctradin	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Atrazine	Herbicide	68	0,0%				33	0,0%				35	0,0%			
azadirachtin	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Azoxystrobin	Fungicide	68	0,0%				33	0,0%				35	0,0%			
bifenthrin	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Bixafen	Fungicide	68	1,5%	0,04	0,04	0,04	33	3,0%	0,04	0,04	0,04	35	0,0%			
Boscalid	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Bromoxynil	Herbicide	68	0,0%				33	0,0%				35	0,0%			
captan THPI (1,2,3,6-tetrahydrophthalimide, CAS: 85-40-5)	Fungicide	68	1,5%	0,87	0,87	0,87	33	3,0%	0,87	0,87	0,87	35	0,0%			
Carbendazim	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Chlorantraniliprole	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Chlorothalonil	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Chlorpropham	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Chlorpyrifos	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Chlorpyrifos-methyl	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Clomazone	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Clothianidin	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Cyantraniliprole	Insecticide	68	0,0%				33	0,0%				35	0,0%			
cyflufenamide	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Cyfluthrin (beta-cyfluthrin)	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Cypermethrin	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Cyproconazole	Fungicide	68	0,0%				33	0,0%				35	0,0%			

Table 4.1.3 continued Human serum PPP (ng/mL) across all measured CSS for farmers stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Cyprodinil	Fungicide	68	1,5%	0,21	0,21	0,21	33	3,0%	0,21	0,21	0,21	35	0,0%			
DDE o,p'	insecticide	68	0,0%				33	0,0%				35	0,0%			
DDE p,p'	insecticide	68	97,1%	0,42	0,16	2,67	33	100,0%	0,44	0,15	2,68	35	94,3%	0,37	0,18	2,15
DDT o,p'	insecticide	68	0,0%				33	0,0%				35	0,0%			
DDT p,p'	insecticide	68	0,0%				33	0,0%				35	0,0%			
Deltamethrin	insecticide	68	1,5%	1,89	1,89	1,89	33	0,0%				35	2,9%	1,89	1,89	1,89
Dicloran	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Dieldrin	insecticide	68	0,0%				33	0,0%				35	0,0%			
Difenoconazole	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Diflufenican	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Dimethoate	insecticide	68	0,0%				33	0,0%				35	0,0%			
Dimethomorph	Fungicide	68	1,5%	0,14	0,14	0,14	33	0,0%				35	2,9%	0,14	0,14	0,14
Dimoxystrobin	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Dinotefuran	insecticide	68	0,0%				33	0,0%				35	0,0%			
Diuron	Herbicide	68	1,5%	0,04	0,04	0,04	33	3,0%	0,04	0,04	0,04	35	0,0%			
emamectin	insecticide	68	0,0%				33	0,0%				35	0,0%			
Esfenvalerate	insecticide	68	0,0%				33	0,0%				35	0,0%			
Ethofumesate	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Famoxadone	Fungicide	68	0,0%				33	0,0%				35	0,0%			
fenbuconazole	Fungicide	68	0,0%				33	0,0%				35	0,0%			
fenhexamid	Fungicide	68	1,5%	0,66	0,66	0,66	33	3,0%	0,66	0,66	0,66	35	0,0%			
Fenoxycarb	insecticide	68	0,0%				33	0,0%				35	0,0%			
Fenpropidin	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Fenvalerate	insecticide	68	0,0%				33	0,0%				35	0,0%			
Fipronil	insecticide	68	0,0%				33	0,0%				35	0,0%			
Fipronil sulfone	insecticide	68	25,0%	0,11	0,06	0,22	33	18,2%	0,10	0,07	0,19	35	31,4%	0,11	0,06	0,23
flazasulfuron	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Flonicamid	insecticide	68	0,0%				33	0,0%				35	0,0%			
Florasulam	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Fluazinam	Fungicide	68	0,0%				33	0,0%				35	0,0%			

Table 4.1.3 continued Human blood PPP (ng/mL) across all measured CSS for <u>farmers</u> stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Fludioxonil	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Flufenacet	Herbicide	68	0,0%				33	0,0%				35	0,0%			
flumioxazine	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Fluopicolide	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Fluopyram	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Fluoxastrobin	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Flusilazole	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Fluxapyroxad	Fungicide	68	0,0%				33	0,0%				35	0,0%			
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Foramsulfuron	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Hexachlorobenzene	Fungicide	68	10,3%	0,25	0,12	0,48	33	9,1%	0,31	0,14	0,49	35	11,4%	0,23	0,14	0,39
Imazalil	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Imidacloprid	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Indoxacarb	Insecticide	68	0,0%				33	0,0%				35	0,0%			
iprovalicarb	Fungicide	68	1,5%	0,14	0,14	0,14	33	0,0%				35	2,9%	0,14	0,14	0,14
Isoproturon	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Isoxaben	Herbicide	68	0,0%				33	0,0%				35	0,0%			
lambda-Cyhalothrin	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Lindane (gamma-HCH)	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Mandipropamid	Fungicide	68	0,0%				33	0,0%				35	0,0%			
MCPA	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Mecoprop (P)	Herbicide	68	1,5%	29,00	29,00	29,00	33	3,0%	29,00	29,00	29,00	35	0,0%			
meptyldinocap	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Metalaxyl (M)	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Metamitron	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Metazachlor	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Metconazole	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Methiocarb	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Methiocarb sulfon	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Methiocarb sulfoxide	Insecticide	68	0,0%				33	0,0%				35	0,0%			

Table 4.1.3 continued Human blood PPP (ng/mL) across all measured CSS for <u>farmers</u> stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Metholachlor	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Metrafenone	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Metribuzin	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Metsulfuron-methyl	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Myclobutanil	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Napropamide (M)	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Nicosulfuron	Herbicide	68	0,0%				33	0,0%				35	0,0%			
oryzalin	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Oxadixyl	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Oxyfluorfen	Herbicide	68	0,0%				33	0,0%				35	0,0%			
penconazole	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Pencycuron	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Pendimethalin	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Permethrin	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Phosmet	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Phoxim	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Piperonyl butoxide	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Pirimicarb	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Pirimicarb-desmethyl	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Pirimiphos-methyl	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Prochloraz	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Prometryn	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Propamocarb (hydrochloride)	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Propaquizafop	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Propiconazole	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Propoxur	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Propyzamide	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Prosulfocarb	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Prothioconazole	Fungicide	68	0,0%				33	0,0%				35	0,0%			

Table 4.1.3 continued Human blood PPP (ng/mL) across all measured CSS for <u>farmers</u> stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Prothioconazole desthio	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Pymetrozine	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Pyraclostrobin	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Pyrimethanil	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Pyriproxyfen	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Quinoxyfen	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Spinetoram (J/L)	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Spinosyn A	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Spinosyn D	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Spirotetramat	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Spirotetramat-enol	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Spirotetramat-enol-glucoside	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Spirotetramat-keto-hydroxy	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Spirotetramat-mono-hydroxy	Insecticide	68	0,0%				33	0,0%				35	0,0%			
tau-Fluvalinate	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Tebuconazole	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Terbuthylazine	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Terbutryn	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Tetraconazole	Fungicide	68	1,5%	0,05	0,05	0,05	33	3,0%	0,05	0,05	0,05	35	0,0%			
Thiabendazole	Insecticide	68	0,0%				33	0,0%				35	0,0%			
Thiacloprid	Insecticide	68	1,5%	0,05	0,05	0,05	33	3,0%	0,05	0,05	0,05	35	0,0%			
Thiamethoxam	Insecticide	68	1,5%	0,03	0,03	0,03	33	3,0%	0,03	0,03	0,03	35	0,0%			
Thiencarbazone-methyl	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Thiophanate-methyl	Fungicide	68	0,0%				33	0,0%				35	0,0%			

Table 4.1.3 continued Human blood PPP (ng/mL) across all measured CSS for <u>farmers</u> stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Tolylfluanid	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Tolylfluanid metabolite DMST (dimethylaminosulfotoluidide)	Fungicide	68	0,0%				33	0,0%				35	0,0%			
Tri-allate	Herbicide	68	0,0%				33	0,0%				35	0,0%			
Trifloxystrobin	Fungicide	68	0,0%				33	0,0%				35	0,0%			
zoxamid	Fungicide	68	0,0%				33	0,0%				35	0,0%			

Table 4.1.4 Human blood PPP (ng/mL) across all measured CSS for farmers stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
AMPA	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
2,4-D (free)	Herbicide	68	1.5	0.55	0.55	0.55	37	0.0	-	-	-	31	3.2	0.55	0.55	0.55
Acetamiprid	Insecticide	68	1.5	0.02	0.02	0.02	37	0.0	-	-	-	31	3.2	0.02	0.02	0.02
Aclonifen	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Ametoctradin	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Atrazine	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
azadirachtin	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Azoxystrobin	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
bifenthrin	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Bixafen	Fungicide	68	1.5	0.04	0.04	0.04	37	0.0	-	-	-	31	3.2	0.04	0.04	0.04
Boscalid	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Bromoxynil	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
captan THPI	Fungicide	68	1.5	0.87	0.87	0.87	37	2.7	0.87	0.87	0.87	31	0.0	-	-	-
Carbendazim	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
carfentrazone	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
carfentrazone-ethyl	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Chlorantraniliprole	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Chlorothalonil	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Chlorpropham	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Chlorpyrifos	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Chlorpyrifos -desethyl	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Chlorpyrifos-methyl	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Clomazone	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Clothianidin	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Cyantraniliprole	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-

Table 4.1.4 continued Human blood PPP (ng/mL) across all measured CSS for farmers stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
cyflufenamide	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Cyfluthrin (beta-cyfluthrin)	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Cypermethrin	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Cyproconazole	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Cyprodinil	Fungicide	68	1.5	0.21	0.21	0.21	37	0.0	-	-	-	31	3.2	0.21	0.21	0.21
DDE p,p'	insecticide	68	97.1	0.42	0.16	2.67	37	97.3	0.38	0.16	2.91	31	96.8	0.42	0.21	1.20
DDE, o,p'	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
DDT o,p'	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
DDT p,p'	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Deltamethrin	insecticide	68	1.5	1.9	1.9	1.9	37	2.7	1.9	1.9	1.9	31	0.0	-	-	-
Dicloran	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Dieldrin	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Difenoconazole	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Diflufenican	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Dimethoate	insecticide	68	1.5	0.20	0.20	0.20	37	0.0	-	-	-	31	3.2	0.20	0.20	0.20
Dimethomorph	Fungicide	68	1.5	0.14	0.14	0.14	37	2.7	0.14	0.14	0.14	31	0.0	-	-	-
Dimoxystrobin	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Dinotefuran	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Diuron	Herbicide	68	1.5	0.04	0.04	0.04	37	0.0	-	-	-	31	3.2	0.04	0.04	0.04
emamectin	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Esfenvalerate	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Ethofumesate	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Famoxadone	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
fenbuconazole	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
fenhexamid	Fungicide	68	1.5	0.66	0.66	0.66	37	2.7	0.66	0.66	0.66	31	0.0	-	-	-
Fenoxycarb	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Fenpropidin	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Fenvalerate	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Fipronil	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-

Table 4.1.4 continued Human blood PPP (ng/mL) across all measured CSS for farmers stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Fipronil sulfone	insecticide	68	25.0	0.11	0.06	0.22	37	24.3	0.11	0.06	0.18	31	25.8	0.10	0.05	0.23
flazasulfuron	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Flonicamid	insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Florasulam	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Fluazinam	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Fludioxonil	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Flufenacet	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
flumioxazine	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Fluopicolide	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Fluopyram	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Fluoxastrobin	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Flusilazole	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Fluxapyroxad	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Foramsulfuron	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Hexachlorobenzene	Fungicide	68	10.3	0.25	0.12	0.48	37	10.8	0.28	0.14	0.40	31	9.7	0.20	0.14	0.48
Imazalil	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Imidacloprid	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Indoxacarb	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
iprovalicarb	Fungicide	68	1.5	0.14	0.14	0.14	37	0.0	-	-	-	31	3.2	0.14	0.14	0.14
Isoproturon	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Isoxaben	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
lambda-Cyhalothrin	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Lindane (gamma-HCH)	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Mandipropamid	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
MCPA	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Mecoprop (P)	Herbicide	68	1.5	29.0	29.0	29.0	37	0.0	-	-	-	31	3.2	29.0	29.0	29.0
meptyldinocap	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Metalaxyl (M)	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-

Table 4.1.4 continued Human blood PPP (ng/mL) across all measured CSS for <u>farmers</u> stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Metamitron	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Metazachlor	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Metconazole	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Methiocarb	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Methiocarb sulfon	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Methiocarb sulfoxide	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Metobromuron	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Metolachlor (S)	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Metrafenone	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Metribuzin	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Metsulfuron-methyl	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Myclobutanil	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Napropamide (M)	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Nicosulfuron	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
oryzalin	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Oxadixyl	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Oxyfluorfen	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
penconazole	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pencycuron	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pendimethalin	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Permethrin	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Phosmet	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Phoxim	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Piperonyl butoxide	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pirimicarb	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pirimicarb desmethyl-	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pirimiphos-methyl	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Prochloraz	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Prometryn	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Propamocarb	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-

Table 4.1.4 continued Human blood PPP (ng/mL) across all measured CSS for farmers stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Propaquizafop	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Propiconazole	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Propoxur	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Propyzamide	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Prosulfocarb	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Prothioconazole	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Prothioconazole desthio	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pymetrozine	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pyraclostrobin	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pyraflufen-ethyl	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pyrimethanil	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pyriproxyfen	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Pyroxsulam	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Quinoxyfen	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Spinetoram	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Spinosyn A	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Spinosyn D	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Spirotetramat	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Spirotetramat-enol	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Spirotetramat-enol-glucoside	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Spirotetramat-keto-hydroxy	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Spirotetramat-mono-hydroxy	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
tau-Fluvalinate	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Tebuconazole	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Terbuthylazine	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Terbutryn	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Tetraconazole	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-

Table 4.1.4 continued Human blood PPP (ng/mL) across all measured CSS for farmers stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Thiabendazole	Insecticide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Thiacloprid	Insecticide	68	1.5	0.05	0.05	0.05	37	0.0	-	-	-	31	3.2	0.05	0.05	0.05
Thiamethoxam	Insecticide	68	1.5	0.03	0.03	0.03	37	0.0	-	-	-	31	3.2	0.03	0.03	0.03
Thiencarbazone-methyl	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Thiophanate-methyl	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Tolylfluanid	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Tolylfluanid metabolite DMST	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Tri-allate	Herbicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-
Trifloxystrobin	Fungicide	68	0.0	-	-	-	37	0.0	-	-	-	31	0.0	-	-	-

Table 4.1.5 Human blood PPP (ng/mL) across all measured CSS for <u>neighbours and consumers</u> stratified by conventional and organic farming.

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	112	0,0%				73	0,0%				39	0,0%			
AMPA	Herbicide	112	0,0%				73	0,0%				39	0,0%			
2,4-D (free)	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Acetamiprid	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Aclonifen	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Ametoctradin	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Atrazine	Herbicide	112	0,0%				73	0,0%				39	0,0%			
azadirachtin	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Azoxystrobin	Fungicide	112	0,0%				73	0,0%				39	0,0%			
bifenthrin	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Bixafen	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Boscalid	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Bromoxynil	Herbicide	112	0,0%				73	0,0%				39	0,0%			
captan THPI (1,2,3,6-tetrahydrophthalimide, CAS: 85-40-5)	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Carbendazim	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Chlorantraniliprole	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Chlorothalonil	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Chlorpropham	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Chlorpyrifos	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Chlorpyrifos-methyl	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Clomazone	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Clothianidin	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Cyantraniliprole	Insecticide	112	1,8%	0,04	0,03	0,04	73	1,4%	0,04	0,04	0,04	39	2,6%	0,03	0,03	0,03
cyflufenamide	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Cyfluthrin (beta-cyfluthrin)	Insecticide	112	0,9%	1,14	1,14	1,14	73	1,4%	1,14	1,14	1,14	39	0,0%			
Cypermethrin	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Cyproconazole	Fungicide	112	0,0%				73	0,0%				39	0,0%			

Table 4.1.5 continued Human blood PPP (ng/mL) across all measured CSS for <u>neighbours and consumers</u> stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Cyprodinil	Fungicide	112	0,9%	0,3	0,3	0,3	73	0,0%				39	2,6%	0,30	0,30	0,30
DDE o,p'	insecticide	112	0,0%				73	0,0%				39	0,0%			
DDE p,p'	insecticide	112	93,8%	0,36	0,13	1,06	73	93,2%	0,33	0,13	1,14	39	94,9%	0,40	0,15	1,02
DDT o,p'	insecticide	112	0,0%				73	0,0%				39	0,0%			
DDT p,p'	insecticide	112	0,0%				73	0,0%				39	0,0%			
Deltamethrin	insecticide	112	0,0%				73	0,0%				39	0,0%			
Dicloran	Fungicide	112	3,6%	0,27	0,2345	0,7305	73	4,1%	0,26	0,233	0,278	39	2,6%	0,81	0,81	0,81
Dieldrin	insecticide	112	0,0%				73	0,0%				39	0,0%			
Difenoconazole	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Diflufenican	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Dimethoate	insecticide	112	0,0%				73	0,0%				39	0,0%			
Dimethomorph	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Dimoxystrobin	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Dinotefuran	insecticide	112	0,0%				73	0,0%				39	0,0%			
Diuron	Herbicide	112	0,0%				73	0,0%				39	0,0%			
emamectin	insecticide	112	0,0%				73	0,0%				39	0,0%			
Esfenvalerate	insecticide	112	0,0%				73	0,0%				39	0,0%			
Ethofumesate	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Famoxadone	Fungicide	112	0,0%				73	0,0%				39	0,0%			
fenbuconazole	Fungicide	112	0,0%				73	0,0%				39	0,0%			
fenhexamid	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Fenoxycarb	insecticide	112	0,0%				73	0,0%				39	0,0%			
Fenpropidin	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Fenvalerate	insecticide	112	0,0%				73	0,0%				39	0,0%			
Fipronil	insecticide	112	0,0%				73	0,0%				39	0,0%			
Fipronil sulfone	insecticide	112	24,1%	0,15	0,07	0,35	73	24,7%	0,14	0,08	0,39	39	23,1%	0,19	0,06	0,29
flazasulfuron	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Flonicamid	insecticide	112	0,0%				73	0,0%				39	0,0%			
Florasulam	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Fluazinam	Fungicide	112	0,0%				73	0,0%				39	0,0%			

Table 4.1.5 continued Human blood PPP (ng/mL) across all measured CSS for neighbours and consumers stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Fludioxonil	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Flufenacet	Herbicide	112	0,0%				73	0,0%				39	0,0%			
flumioxazine	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Fluopicolide	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Fluopyram	Fungicide	112	0,9%	0,10	0,10	0,10	73	0,0%				39	2,6%	0,10	0,10	0,10
Fluoxastrobin	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Flusilazole	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Fluxapyroxad	Fungicide	112	1,8%	0,13	0,08	0,18	73	2,7%	0,13	0,08	0,18	39	0,0%			
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Foramsulfuron	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Hexachlorobenzene	Fungicide	112	3,6%	0,23	0,12	0,93	73	4,1%	0,33	0,15	0,96	39	2,6%	0,12	0,12	0,12
Imazalil	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Imidacloprid	Insecticide	112	0,9%	0,04	0,04	0,04	73	0,0%				39	2,6%	0,04	0,04	0,04
Indoxacarb	Insecticide	112	0,0%				73	0,0%				39	0,0%			
iprovalicarb	Fungicide	112	3,6%	0,14	0,10	0,26	73	2,7%	0,14	0,11	0,16	39	5,1%	0,19	0,109	0,271
Isoproturon	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Isoxaben	Herbicide	112	0,0%				73	0,0%				39	0,0%			
lambda-Cyhalothrin	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Lindane (gamma-HCH)	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Mandipropamid	Fungicide	112	0,0%				73	0,0%				39	0,0%			
MCPA	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Mecoprop (P)	Herbicide	112	0,0%				73	0,0%				39	0,0%			
meptyldinocap	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Metalaxyl (M)	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Metamitron	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Metazachlor	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Metconazole	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Methiocarb	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Methiocarb sulfon	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Methiocarb sulfoxide	Insecticide	112	0,0%				73	0,0%				39	0,0%			

Table 4.1.5 continued Human blood PPP (ng/mL) across all measured CSS for neighbours and consumers stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Metholachlor	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Metrafenone	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Metribuzin	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Metsulfuron-methyl	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Myclobutanil	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Napropamide (M)	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Nicosulfuron	Herbicide	112	0,0%				73	0,0%				39	0,0%			
oryzalin	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Oxadixyl	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Oxyfluorfen	Herbicide	112	0,0%				73	0,0%				39	0,0%			
penconazole	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Pencycuron	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Pendimethalin	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Permethrin	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Phosmet	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Phoxim	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Piperonyl butoxide	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Pirimicarb	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Pirimicarb-desmethyl	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Pirimiphos-methyl	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Prochloraz	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Prometryn	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Propamocarb (hydrochloride)	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Propaquizafop	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Propiconazole	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Propoxur	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Propyzamide	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Prosulfocarb	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Prothioconazole	Fungicide	112	0,0%				73	0,0%				39	0,0%			

Table 4.1.5 continued Human blood PPP (ng/mL) across all measured CSS for neighbours and consumers stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Prothioconazole desthio	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Pymetrozine	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Pyraclostrobin	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Pyrimethanil	Herbicide	112	0,9%	0,42	0,42	0,42	73	1,4%	0,42	0,42	0,42	39	0,0%			
Pyriproxyfen	Insecticide	112	0,9%	0,27	0,27	0,27	73	1,4%	0,27	0,27	0,27	39	0,0%			
Quinoxyfen	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Spinetoram (J/L)	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Spinosyn A	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Spinosyn D	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Spirotetramat	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Spirotetramat-enol	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Spirotetramat-enol-glucoside	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Spirotetramat-keto-hydroxy	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Spirotetramat-mono-hydroxy	Insecticide	112	0,0%				73	0,0%				39	0,0%			
tau-Fluvalinate	Insecticide	112	0,9%	1,97	1,97	1,97	73	0,0%				39	2,6%	1,97	1,97	1,97
Tebuconazole	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Terbuthylazine	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Terbutryn	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Tetraconazole	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Thiabendazole	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Thiacloprid	Insecticide	112	1,8%	0,03	0,03	0,03	73	1,4%	0,03	0,03	0,03	39	2,6%	0,03	0,03	0,03
Thiamethoxam	Insecticide	112	0,0%				73	0,0%				39	0,0%			
Thiencarbazone-methyl	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Thiophanate-methyl	Fungicide	112	0,9%	0,14	0,14	0,14	73	0,0%				39	2,6%	0,14	0,14	0,14

Table 4.1.5 continued Human blood PPP (ng/mL) across all measured CSS for <u>neighbours and consumers</u> stratified by conventional and organic farming

PPP		Total					Conventional					Organic				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Tolylfluanid	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Tolylfluanid metabolite DMST (dimethylaminosulfotoluidide)	Fungicide	112	0,0%				73	0,0%				39	0,0%			
Tri-allate	Herbicide	112	0,0%				73	0,0%				39	0,0%			
Trifloxystrobin	Fungicide	112	0,0%				73	0,0%				39	0,0%			
zoxamid	Fungicide	112	0,0%				73	0,0%				39	0,0%			

Table 4.1.6 Human blood PPP (ng/mL) across all measured CSS for neighbours and consumers stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
AMPA	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
2,4-D (free)	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Acetamiprid	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Aclonifen	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Ametoctradin	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Atrazine	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
azadirachtin	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Azoxystrobin	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
bifenthrin	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Bixafen	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Boscalid	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Bromoxynil	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
captan THPI	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Carbendazim	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Chlorantraniliprole	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Chlorothalonil	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Chlorpropham	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Chlorpyrifos	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Chlorpyrifos -desethyl	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Chlorpyrifos-methyl	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Clomazone	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Clothianidin	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Cyantraniliprole	Insecticide	112	1.8	0.04	0.03	0.04	52	1.9	0.04	0.04	0.04	60	1.7	0.03	0.03	0.03
cyflufenamide	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Cyfluthrin (beta-cyfluthrin)	Insecticide	112	0.9	1.1	1.1	1.1	52	0.0	-	-	-	60	1.7	1.1	1.1	1.1

Table 4.1.6 continued Human blood PPP (ng/mL) across all measured CSS for neighbours and consumers stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Cypermethrin	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Cyproconazole	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Cyprodinil	Fungicide	112	0.9	0.30	0.30	0.30	52	0.0	-	-	-	60	1.7	0.30	0.30	0.30
DDE p,p'	insecticide	112	93.8	0.36	0.13	1.06	52	94.2	0.33	0.13	1.00	60	93.33	0.39	0.14	1.22
DDE, o,p'	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
DDT o,p'	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
DDT p,p'	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Deltamethrin	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Dicloran	Fungicide	112	3.6	0.27	0.23	0.73	52	3.8	0.25	0.23	0.26	60	3.3	0.55	0.31	0.78
Dieldrin	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Difenoconazole	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Diflufenican	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Dimethoate	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Dimethomorph	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Dimoxystrobin	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Dinotefuran	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Diuron	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
emamectin	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Esfenvalerate	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Ethofumesate	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Famoxadone	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
fenbuconazole	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
fenhexamid	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Fenoxycarb	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Fenpropidin	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Fenvalerate	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Fipronil	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Fipronil sulfone	insecticide	112	24.1	0.15	0.07	0.35	52	21.2	0.17	0.07	0.48	60	26.7	0.12	0.07	0.23
flazasulfuron	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-

Table 4.1.6 continued Human blood PPP (ng/mL) across all measured CSS for neighbours and consumers stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Flonicamid	insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Florasulam	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Fluazinam	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Fludioxonil	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Flufenacet	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
flumioxazine	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Fluopicolide	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Fluopyram	Fungicide	112	0.9	0.10	0.10	0.10	52	0.0	-	-	-	60	1.7	0.10	0.10	0.10
Fluoxastrobin	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Flusilazole	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Fluxapyroxad	Fungicide	112	1.8	0.13	0.08	0.18	52	1.9	0.19	0.19	0.19	60	1.7	0.07	0.07	0.07
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Foramsulfuron	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Hexachlorobenzene	Fungicide	112	3.6	0.2	0.1	0.9	52	3.8	0.58	0.17	0.98	60	3.3	0.23	0.14	0.32
Imazalil	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Imidacloprid	Insecticide	112	0.9	0.04	0.04	0.04	52	1.9	0.04	0.04	0.04	60	0.0	-	-	-
Indoxacarb	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
iprovalicarb	Fungicide	112	3.6	0.14	0.10	0.26	52	7.7	0.14	0.10	0.26	60	0.0	-	-	-
Isoproturon	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Isoxaben	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
lambda-Cyhalothrin	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Lindane (gamma-HCH)	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Mandipropamid	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
MCPA	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Mecoprop (P)	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
meptyldinocap	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Metalaxyl (M)	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Metamitron	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Metazachlor	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-

Table 4.1.6 continued Human blood PPP (ng/mL) across all measured CSS for <u>neighbours and consumers</u> stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Metconazole	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Methiocarb	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Methiocarb sulfon	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Methiocarb sulfoxide	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Metolachlor (S)	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Metrafenone	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Metribuzin	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Metsulfuron-methyl	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Myclobutanil	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Napropamide (M)	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Nicosulfuron	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
oryzalin	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Oxadixyl	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Oxyfluorfen	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
penconazole	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Pencycuron	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Pendimethalin	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Permethrin	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Phosmet	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Phoxim	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Piperonyl butoxide	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Pirimicarb	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Pirimicarb desmethyl-	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Pirimiphos-methyl	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Prochloraz	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Prometryn	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Propamocarb	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Propaquizafop	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Propiconazole	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Propoxur	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-

Table 4.1.6 continued Human blood PPP (ng/mL) across all measured CSS for neighbours and consumers stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Propyzamide	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Prosulfocarb	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Prothioconazole	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Prothioconazole desthio	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Pymetrozine	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Pyraclostrobin	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Pyraflufen-ethyl	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Pyrimethanil	Fungicide	112	0.9	0.42	0.42	0.42	52	1.9	0.42	0.42	0.42	60	0.0	-	-	-
Pyriproxyfen	Insecticide	112	0.9	0.27	0.27	0.27	52	0.0	-	-	-	60	1.7	0.27	0.27	0.27
Quinoxyfen	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Spinetoram	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Spinosyn A	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Spinosyn D	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Spirotetramat	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Spirotetramat-enol	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Spirotetramat-enol-glucoside	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Spirotetramat-keto-hydroxy	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Spirotetramat-mono-hydroxy	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
tau-Fluvalinate	Insecticide	112	0.9	2.0	2.0	2.0	52	0.0	-	-	-	60	1.7	2.0	2.0	2.0
Tebuconazole	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Terbuthylazine	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Terbutryn	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Tetraconazole	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Thiabendazole	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Thiacloprid	Insecticide	112	1.8	0.03	0.03	0.03	52	0.0	-	-	-	60	3.3	0.03	0.03	0.03
Thiamethoxam	Insecticide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Thiencarbazone-methyl	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-

Table 4.1.6 continued Human blood PPP (ng/mL) across all measured CSS for neighbours and consumers stratified by male and female

		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Thiophanate-methyl	Fungicide	112	0.9	0.14	0.14	0.14	52	0.0	-	-	-	60	1.7	0.14	0.14	0.14
Tolylfluanid	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Tolylfluanid metabolite DMS	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Tri-allate	Herbicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-
Trifloxystrobin	Fungicide	112	0.0	-	-	-	52	0.0	-	-	-	60	0.0	-	-	-

4.2 Human urine PPP concentrations across all measured CSS

For human urine the herbicides Glyphosate and AMPA only were analysed in 200 samples from three CSS countries (Croatia, Switzerland, and the Netherlands)

In human urine samples across all CSS for Glyphosate 32.5% of all samples were above the LOQ, for AMPA the percentage above LOQ was 22.5% (Table 4.2.1). The percentage of samples above LOQ was higher for conventional (37.8% (Glyphosate) and 29.7% (AMPA)) compared to organic (29% (Glyphosate) and 17.4% (AMPA)). This difference was most evident among farmers (Table 4.2.3), less so for neighbours and consumers (Table 4.2.5).

The percentage of samples above LOQ was also higher for males (40.2% and 26.8%) compared to females (25.2 and 18.5%) (Table 4.2.2) for both Glyphosate and AMPA. Again, this difference was most evident among farmer males (Table 4.2.4), less so for neighbours and consumer males (Table 4.2.6). The difference may reflect that most of the males were the primary farmers, whereas the females were farmer's spouse.

Table 4.2.1. Glyphosate and AMPA concentrations (ng/mL) in human urine samples (across all samples for Croatia, Switzerland, and the Netherlands) stratified by conventional, organic, and unknown farming.

		Total					Conventional					Organic					Unknown				
PPP		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	200	32,5	0,17	0,10	0,69	74	37,84	0,20	0,10	0,73	69	28,99	0,15	0,10	0,31	57	29,82	0,16	0,11	0,42
AMPA	Herbicide	200	22,5	0,28	0,20	0,66	74	29,73	0,24	0,20	0,46	69	17,39	0,33	0,20	0,55	57	19,30	0,35	0,21	0,88

Table 4.2.2. Glyphosate and AMPA concentrations (ng/mL) in human urine samples (across all samples for Croatia, Switzerland, and the Netherlands) stratified by gender

		Total					Male					Female				
PPP		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	200	32,5	0,17	0,10	0,69	97	40,21	0,17	0,10	0,72	103	25,24	0,17	0,10	0,58
AMPA	Herbicide	200	22,5	0,28	0,20	0,66	97	26,80	0,29	0,20	0,66	103	18,45	0,27	0,21	0,61

Table 4.2.3. Glyphosate and AMPA concentrations (ng/mL) in urine samples of farmers (across all samples for Croatia, Switzerland, and the Netherlands) stratified by conventional and organic.

		Total					Conventional					Organic				
PPP		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	69	43,48	0,15	0,10	0,70	32	56,25	0,14	0,10	0,99	37	32,43	0,15	0,10	0,46
AMPA	Herbicide	69	23,19	0,28	0,20	0,51	32	28,13	0,24	0,20	0,58	37	18,92	0,31	0,24	0,45

Table 4.2.4. Glyphosate and AMPA concentrations (ng/mL) in human urine samples of farmers (across all samples for Croatia, Switzerland, and the Netherlands) stratified by gender

PPP		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	69	43,48	0,15	0,10	0,70	37	56,76	0,15	0,10	0,74	32	28,13	0,13	0,10	0,51
AMPA	Herbicide	69	23,19	0,28	0,20	0,51	37	32,43	0,28	0,20	0,55	32	12,5	0,29	0,23	0,44

Table 4.2.5. Total glyphosate and AMPA concentrations (ng/mL) in human urine samples of neighbours and consumers (across all samples for Croatia, Switzerland, and the Netherlands) stratified by conventional, organic, and unknown farming.

PPP		Total					Conventional					Organic					Unknown				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	131	26,72	0,18	0,10	0,49	42	23,81	0,22	0,10	0,57	32	25,000	0,166	0,098	0,269	57	29,82	0,16	0,11	0,42
AMPA	Herbicide	131	22,14	0,29	0,20	0,67	42	30,95	0,23	0,20	0,39	32	15,63	0,36	0,19	0,61	57	19,30	0,35	0,21	0,88

Table 4.2.6. Glyphosate and AMPA concentrations (ng/mL) in human urine samples of neighbours and consumers (across all samples for Croatia, Switzerland, and the Netherlands) stratified by gender

PPP		Total					Male					Female				
		n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95	n	% > LOQ	Median	p5	P95
Glyphosate	Herbicide	131	26,72	0,18	0,10	0,49	60	30,00	0,18	0,10	0,44	71	23,94	0,22	0,10	0,42
AMPA	Herbicide	131	22,14	0,29	0,20	0,67	60	23,33	0,33	0,20	0,66	71	21,13	0,27	0,21	0,72

4.3 Human faeces samples PPP concentrations across all measured CSS

All together 194 out of the 209 selected PPPs were analysed in human faeces samples. 320 Faeces samples from 5 CSS were included (Croatia, Czech Republic, Slovenia, Switzerland, and the Netherlands).

Human faeces

For human faeces, in total 320 samples were analysed for 194 out of the 209 anticipated pesticides and metabolites. With the multi-methods used, fourteen pesticides could not be analysed at levels of 10 µg/kg or lower (higher levels might be possible but were anticipated less likely to occur and were not tested during method validation).

The samples represented more than 50% of the samples received, but less than 50% of the CSSs. A compilation of the findings for three groups including all, farmers, and neighbours & consumers can be found in the tables below (Tables 4.3.1 -4.3.6). For each group findings have been split in total, conventional and organic based on the available metadata and total, male, and female. In Table 4.3a the top 10 detected pesticides/metabolites are shown. Table 4.3b provides the top 10 highest concentrations found. The results should be considered as preliminary data. At this stage, for faeces it was decided to include all detects, also those below LOQ, and also cases where further assessment regarding correct identification is still required, in order to avoid erroneous discarding of findings at this early stage however, medians, p5, and p95 are based on samples with concentrations > LOQ. This was done because analysis of human faeces for such a wide scope of pesticides is new (very little/no reports in literature), and the matrix-complexity highly variable, complicating data interpretation in a number of cases. Of note, also the percentage of samples above LOQ is shown in the tables below (4.3.1-4.3.6). It should be noted that it is expected that both the actual number of pesticides, and the detection frequencies may decrease. Also, since not all CSS have been included, the results are not yet representative for the entire SPRINT study.

Overall, 64 pesticides/metabolites were detected, many only incidentally. Table 4.3a shows that two persistent and long-banned organochlorine pesticides are among the most frequently found pesticides (DDE p,p' and Hexachlorobenzene). The very low detection limits (0.2 µg/kg) may have contributed to this. The top 10 includes insecticides and fungicides, but not herbicides. Pyrethroids (cypermethrin, lambda-cyhalothrin, deltamethrin, and permethrin, and their synergist piperonylbutoxide) appear to be a typical finding in human faeces. Stratification between conventional and organic shows a difference in some cases, but not all, with organic not necessarily showing lower detection rates than conventional. The stratification between conventional and organic is not straightforward because organic farmers and neighbours of organic farmers are also consumers and do not necessarily follow a (full) organic diet. Similarly, in the consumer group, a clear distinction between organic and non-organic cannot be made, as many organic consumers also consume non-organic food.

Looking at only farmers, the top 10 is virtually the same, except that the captan metabolite THPI appears in the top 10.

Since the dataset is preliminary and not complete yet, no further efforts were made for further stratification and significance of differences at this stage.

Table 4.3a. Top 10* most frequently detected pesticides in human faeces.

All (320 samples)		Approved a)	Total (320)	Conv (197)	Org (123)
DDE p,p'	Insecticide	no	47.8%	44.2%	53.7%
Hexachlorobenzene	Fungicide	no	22.8%	19.8%	27.6%
Spirotetramat-enol	Insecticide	yes	16.3%	17.3%	14.6%
Cypermethrin	Insecticide	yes	13.1%	10.7%	17.1%
lambda-Cyhalothrin	Insecticide	yes	11.3%	11.2%	11.4%
Folpet PHI (Phthalimide)	Fungicide	yes	10.6%	10.7%	10.6%
Piperonyl butoxide	Insecticide	"not PPP"	9.4%	12.7%	4.1%
Deltamethrin	insecticide	yes	7.8%	7.6%	8.1%
Cyprodinil metabolite CGA304075	Fungicide	yes	6.9%	9.1%	3.3%
Fenhexamid	Fungicide	yes	6.3%	9.1%	1.6%

a) Legal status according to the EC Regulation 1107/2009

Table 3. Top 10* highest level pesticides in human faeces.

All (320 samples)		% Detected (>LOD)	Median of samples > LOQ (µg/kg)		
			total	conv	org
Folpet PHI (Phthalimide)	Fungicide	10.6%	13.15	13.28	13.07
Piperonyl butoxide	Insecticide	9.4%	6.95	8.30	4.29
Fenhexamid	Fungicide	6.3%	6.23	6.23	15.95
Cyprodinil	Fungicide	1.6%	5.61	5.29	-
Fenbuconazole	Fungicide	1.6%	4.87	4.87	8.12
Esfenvalerate/fenvalerate	Insecticide	2.5%	3.89	2.21	3.93
Spirotetramat-keto-hydroxy	Insecticide	2.8%	2.18	6.04	3.80
Deltamethrin	insecticide	7.8%	3.58	3.45	4.08
Trifloxystrobin metab. CGA 321113	Fungicide	1.9%	3.47	3.84	1.52
Cyprodinil metab. CGA304075	Fungicide	6.9%	3.32	3.45	2.96

* Top 10. Cyprodinil and its metabolite are counted as one.

In human faeces, levels were generally below 10 µg/kg. Exceptionally high values were observed for cyprodinil (up to 160 µg/kg), lambda-cyhalothrin (100 µg/kg), and fenhexamid (84 µg/kg). Table 4.3b shows 10 highest median level pesticides in human faeces. Only PPPs with more than 5 detects (> 1.6% detected) have been included in the table. For six of the pesticides most frequently detected also the highest median levels (median of > LOQ only) were found. Cyprodinil parent compound, Fenbuconazole, another metabolite for spirotetramat were less frequently detected, but at relatively high median levels. As for the 10 most frequently detected, stratification between conventional and organic shows a difference in median levels in some cases, but not all, with organic not necessarily showing lower median levels than conventional.

Table 4.3.1 Faeces samples PPP (µg/kg) across all measured CSS and stratified by conventional and organic farming. Only detected PPPs are included in the table

		Total						Conventional					Organic					
PPP		n	% > LOD	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% > LOD	% >LOQ	Median	p5	p95
Acetamiprid: Acetamiprid-N-desmethyl	Insecticide	320	1,9%	1,9	1,73	1,09	2,46	130	2,3	1,96	1,36	2,13	123	1,6%	1,6	2,04	1,56	2,52
Azoxystrobin	Fungicide	320	0,3%	0,3	5,59	5,59	5,59	130	0,8	5,59	5,59	5,59	123	0,0%	0,0			
Azoxystrobin-O-demethyl	Fungicide	320	0,3%	0,3	5,59	5,59	5,59	130	0,8	5,59	5,59	5,59	123	0,0%	0,0			
bifenthrin	Insecticide	320	0,6%	0,3	3,94	3,94	3,94	130	0,8	3,94	3,94	3,94	123	0,8%	0,0			
Boscalid	Fungicide	320	0,3%	0,3	12,31	12,31	12,31	130	0,0				123	0,0%	0,0			
captan THPI	Fungicide	320	3,8%	3,8	1,44	1,07	5,79	130	2,3	1,31	1,12	7,65	123	4,9%	4,9	1,75	1,07	3,27
Chlorantraniliprole	Insecticide	320	0,9%	0,9	1,89	1,35	3,03	130	0,8	1,89	1,89	1,89	123	0,8%	0,8	1,29	1,29	1,29
Chlorothalonil 4-hydroxy	Fungicide	320	0,6%	0,6	1,40	1,24	1,56	130	0,0				123	0,0%	0,0			
Chlorpropham	Herbicide	320	0,9%	0,9	1,87	1,51	1,87	130	1,5	1,67	1,49	1,85	123	0,8%	0,8	1,87	1,87	1,87
Chlorpyrifos	Insecticide	320	3,4%	1,3	2,77	1,52	3,07	130	0,8	2,63	2,63	2,63	123	3,3%	2,4	2,92	1,49	3,08
Chlorpyrifos-methyl	Insecticide	320	0,6%	0,3	1,14	1,14	1,14	130	0,8	1,14	1,14	1,14	123	0,0%	0,0			
Cypermethrin	Insecticide	320	13,1%	9,7	2,38	1,02	7,47	130	10,0	1,42	1,02	6,47	123	17,1%	12,2	2,50	1,31	9,92
Cyprodinil	Fungicide	320	1,6%	1,6	5,61	4,17	136,02	130	3,1	5,29	4,12	138,38	123	0,0%	0,0			
Cyprodinil metabolite CGA304075	Fungicide	320	6,9%	6,9	3,32	2,73	6,21	130	7,7	3,45	2,81	24,90	123	3,3%	3,3	2,96	2,62	3,30
DDD p,p'	insecticide	320	0,6%	0,3	1,97	1,97	1,97	130	0,8	1,97	1,97	1,97	123	0,0%	0,0			
DDE p,p'	insecticide	320	47,8%	8,8	1,88	1,08	5,33	130	11,5	2,24	1,27	5,80	123	53,7%	8,9	1,85	1,04	5,19
DDT p,p'	insecticide	320	0,3%	0,0				130	0,0				123	0,0%	0,0			
Deltamethrin	insecticide	320	7,8%	7,8	3,58	1,24	23,72	130	7,7	3,45	1,27	20,01	123	8,1%	8,1	4,08	2,37	19,12
Difenoconazole	Fungicide	320	1,3%	1,3	1,42	1,13	2,27	130	1,5	1,93	1,49	2,37	123	0,8%	0,8	1,08	1,08	1,08
Dinotefuran	insecticide	320	0,6%	0,6	1,25	1,22	1,29	130	0,8	1,21	1,21	1,21	123	0,0%	0,0			
Esfenvalerate/fenvalerate	insecticide	320	2,5%	1,6	3,89	1,28	4,19	130	0,8	2,21	2,21	2,21	123	3,3%	3,3	3,93	1,47	4,21
Ethofumesate	Herbicide	320	0,6%	0,6	1,43	1,15	1,72	130	1,5	1,43	1,15	1,72	123	0,0%	0,0			
fenbuconazole	Fungicide	320	1,6%	1,6	4,87	4,10	10,99	130	2,3	4,87	4,77	5,66	123	1,6%	1,6	8,12	4,35	11,88
fenhexamid	Fungicide	320	6,3%	6,3	6,23	3,72	37,71	130	10,8	6,23	3,44	52,32	123	1,6%	1,6	15,95	5,93	25,97

Table 4.3.1 continued Faeces samples PPP (µg/kg) across all measured CSS and stratified by conventional and organic farming. Only detected PPPs are included in the table

		Total						Conventional					Organic					
PPP		n	% > LOD	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% > LOD	% >LOQ	Median	p5	p95
Fenpropidin	Fungicide	320	0,9%	0,9	1,75	1,72	3,31	130	2,3	1,75	1,72	3,31	123	0,0%	0,0			
Fipronil sulfone	insecticide	320	0,6%	0,6	1,46	1,16	1,77	130	0,0				123	0,8%	0,8	1,13	1,13	1,13
Flonicamid	insecticide	320	1,3%	1,3	1,18	1,01	3,64	130	0,8	1,01	1,01	1,01	123	0,8%	0,8	1,35	1,35	1,35
Fludioxonil	Fungicide	320	4,7%	4,7	2,65	1,03	26,52	130	2,2	5,43	1,08	15,77	123	2,4%	2,4	4,56	2,59	23,69
Fluopyram	Fungicide	320	1,6%	1,6	1,07	1,07	8,88	130	1,5	1,07	1,07	1,07	123	0,8%	0,8	1,07	1,07	1,07
Fluopyram benzamide	Fungicide	320	1,3%	1,3	1,83	1,11	2,09	130	1,5	1,48	1,05	1,90	123	0,8%	0,8	1,71	1,71	1,71
Fluroxypyr (only free)	Herbicide	320	1,3%	1,3	1,54	1,17	2,53	130	1,5	1,90	1,18	2,62	123	0,8%	0,8	1,53	1,53	1,53
Fluxapyroxad	Fungicide	320	0,3%	0,3	1,21	1,21	1,21	130	0,0				123	0,8%	0,8	1,21	1,21	1,21
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	320	10,6%	4,7	13,15	8,72	26,24	130	5,4	13,28	10,49	26,82	123	10,6%	4,9	13,07	6,67	16,56
Hexachlorobenzene	Fungicide	320	22,8%	1,3	0,75	0,21	1,54	130	1,5	1,42	1,27	1,57	123	27,6%	1,6	0,23	0,21	0,25
Imazalil	Fungicide	320	4,7%	4,7	3,20	2,37	9,03	130	4,6	3,23	2,73	6,65	123	4,9%	4,9	3,45	2,21	11,30
Indoxacarb	Insecticide	320	0,3%	0,3	2,70	2,70	2,70	130	0,8	2,70	2,70	2,70	123	0,0%	0,0			
lambda-Cyhalothrin	Insecticide	320	11,3%	8,8	2,45	1,21	41,44	130	8,5	2,48	1,25	32,67	123	11,4%	9,8	2,37	1,16	49,04
Mandipropamid	Fungicide	320	0,6%	0,6	1,41	1,26	1,57	130	0,0				123	0,0%	0,0			
MCPA	Herbicide	320	0,3%	0,3	2,35	2,35	2,35	130	0,8	2,35	2,35	2,35	123	0,0%	0,0			
Metalaxyl Metabolite CGA 62826 (87764-37-2)	Fungicide	320	1,3%	1,3	5,94	3,16	9,73	130	1,5	3,84	2,97	4,72	123	0,0%	0,0			
Metamitron-desamino	Herbicide	320	0,3%	0,0				130	0,8	5,23	5,23	5,23	123	0,0%	0,0			
Methiocarb sulfon	Insecticide	320	2,2%	2,2	1,59	1,09	2,05	130	3,1	1,40	1,08	1,64	123	0,8%	0,8	1,59	1,59	1,59
Metolachlor (S)	Herbicide	320	0,9%	0,9	7,50	6,14	7,97	130	1,5	7,76	7,53	7,99	123	0,0%	0,0			
Metolachlor ethane sulfonic acid	Herbicide	320	2,5%	2,5	1,35	1,05	2,10	130	1,5	1,80	1,40	2,20	123	2,4%	2,4	1,33	1,04	1,77
Metribuzin	Herbicide	320	0,3%	0,3	4,22	4,22	4,22	130	0,8	4,22	4,22	4,22	123	0,0%	0,0			
Oxadixyl	Fungicide	320	4,1%	4,1	5,25	1,27	88,10	130	3,1	44,46	2,98	99,44	123	5,7%	5,7	1,85	1,27	27,61
Pendimethalin	Herbicide	320	41,6%	5,0	5,78	1,36	10,13	130	6,2	6,12	2,10	8,52	123	43,1%	4,1	5,29	2,02	9,16
Permethrin	Insecticide	320	4,1%	3,4	1,68	1,12	6,33	130	1,5	1,70	1,41	1,98	123	4,1%	3,3	1,49	1,16	1,94
Phoxim	Insecticide	320	5,3%	5,3	1,37	1,05	7,36	130	4,6	1,47	1,09	16,77	123	6,5%	6,5	1,39	1,10	3,50
Piperonyl butoxide	Insecticide	320	9,4%	9,4	6,95	2,99	39,83	130	7,7	8,30	3,39	52,11	123	4,1%	4,1	4,29	2,59	21,24
Pirimiphos-methyl	Insecticide	320	1,6%	1,6	1,68	1,06	5,54	130	1,5	3,65	1,87	5,44	123	0,8%	0,8	5,18	5,18	5,18
Propiconazole	Fungicide	320	0,3%	0,3	2,44	2,44	2,44	130	0,0				123	0,0%	0,0			
Propoxur	Insecticide	320	0,3%	0,3	2,06	2,06	2,06	130	0,8	2,06	2,06	2,06	123	0,0%	0,0			

Table 4.3.1 continued Faeces samples PPP (µg/kg) across all measured CSS and stratified by conventional and organic farming. Only detected PPPs are included in the table.

PPP		Total						Conventional					Organic					
		n	% > LOD	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% > LOD	% >LOQ	Median	p5	p95
Pyraclostrobin	Fungicide	320	0,6%	0,6	1,19	1,16	1,22	130	0,0				123	0,8%	0,8	1,22	1,22	1,22
Pyrimethanil	Fungicide	320	0,6%	0,6	24,11	12,68	35,54	130	0,0				123	0,0%	0,0			
Pyrimethanil_M605F002	Fungicide	320	1,3%	1,3	6,19	3,11	9,15	130	0,0				123	0,8%	0,8	7,77	7,77	7,77
Pyriproxyfen	Insecticide	320	0,6%	0,6	1,93	1,12	2,75	130	0,0				123	1,6%	1,6	1,93	1,12	2,75
Pyroxsulam	Herbicide	320	5,9%	5,9	5,40	1,21	39,35	130	7,7	7,18	1,20	30,19	123	7,3%	7,3	3,39	1,36	31,03
Rimsulfuron	Herbicide	320	0,3%	0,3	11,02	11,02	11,02	130	0,8	11,02	11,02	11,02	123	0,0%	0,0			
Sedaxane	Fungicide	320	1,6%	1,3	5,40	4,16	5,94	130	1,5	4,87	4,09	5,64	123	1,6%	1,6	5,52	5,11	5,93
Spirotetramat-enol	Insecticide	320	16,3%	16,3	2,32	1,11	8,94	130	17,7	2,33	1,12	13,03	123	14,6%	14,6	2,28	1,09	5,07
Spirotetramat-enol-glucoside	Insecticide	320	4,1%	4,1	3,14	1,85	7,81	130	3,1	2,47	2,05	4,06	123	3,3%	3,3	2,92	1,77	5,35
Spirotetramat-keto-hydroxy	Insecticide	320	2,8%	2,2	3,80	2,99	6,18	130	2,3	6,04	4,85	6,22	123	2,4%	0,8	3,80	3,80	3,80
Spirotetramat-mono-hydroxy	Insecticide	320	0,0%	0,6	3,61	3,59	3,63	130	0,0				123	0,0%	1,6	3,61	3,59	3,63
tau-Fluvalinate	Insecticide	320	0,9%	0,9	8,15	6,56	10,34	130	0,0				123	2,4%	2,4	8,15	6,56	10,34
Terbuthylazine-desethyl	Herbicide	320	0,3%	0,3	1,04	1,04	1,04	130	0,0				123	0,8%	0,8	1,04	1,04	1,04
Thiabendazole	Insecticide	320	0,9%	0,9	3,87	1,51	6,11	130	0,6	3,80	1,51	6,10	123	0,0%	0,0			
Thiophanate-methyl	Fungicide	320	3,8%	3,8	1,35	1,03	4,49	130	0,3	1,05	1,05	1,05	123	4,1%	4,1	1,16	1,02	2,25
Tri-allate	Herbicide	320	0,6%	0,6	3,67	3,39	3,95	130	0,3	3,99	3,99	3,99	123	0,8%	0,8	3,36	3,36	3,36
Trifloxystrobin	Fungicide	320	0,6%	0,6	1,78	1,20	2,36	130	0,8	1,13	1,13	1,13	123	0,8%	0,8	2,43	2,43	2,43
Trifloxystrobin metabolite CGA 321113	Fungicide	320	1,9%	1,9	3,47	1,43	3,99	130	1,5	3,84	3,66	4,02	123	1,6%	1,6	1,52	1,36	1,68

Note: 67 participants (neighbours and consumers) were not classified according to farming system => Thus n for conventional and organic farming strata do not add up to 320

Table 4.3.2 Faeces samples PPP (µg/kg) across all measured CSS and stratified by gender. Only detected PPPs are included in the table. 71 PPPs out of the 194 analysed PPPs were detected in human faeces samples.

		Total						Male					Female				
PPP		n	% > LOD	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95
Acetamiprid: Acetamiprid-N-desmethyl	Insecticide	320	1,9%	1,9	1,73	1,09	2,46	162	2,5	1,73	1,33	2,12	158	1,3	1,79	1,10	2,49
Azoxystrobin	Fungicide	320	0,3%	0,3	5,59	5,59	5,59	162	0,6	5,59	5,59	5,59	158	0,0			
Azoxystrobin-O-demethyl	Fungicide	320	0,3%	0,3	5,59	5,59	5,59	162	0,6	5,59	5,59	5,59	158	0,0			
bifenthrin	Insecticide	320	0,6%	0,3	3,94	3,94	3,94	162	0,6	3,94	3,94	3,94	158	0,0			
Boscalid	Fungicide	320	0,3%	0,3	12,31	12,31	12,31	162	0,0				158	0,6	12,31	12,31	12,31
captan THPI	Fungicide	320	3,8%	3,8	1,44	1,07	5,79	162	4,9	1,52	1,06	6,72	158	2,5	1,43	1,17	1,93
Chlorantraniliprole	Insecticide	320	0,9%	0,9	1,89	1,35	3,03	162	1,9	1,89	1,35	3,03	158	0,0			
Chlorothalonil 4-hydroxy	Fungicide	320	0,6%	0,6	1,40	1,24	1,56	162	0,6	1,22	1,22	1,22	158	0,6	1,58	1,58	1,58
Chlorpropham	Herbicide	320	0,9%	0,9	1,87	1,51	1,87	162	1,2	1,67	1,49	1,85	158	0,6	1,87	1,87	1,87
Chlorpyrifos	Insecticide	320	3,4%	1,3	2,77	1,52	3,07	162	1,2	1,98	1,39	2,56	158	1,3	3,01	2,93	3,09
Chlorpyrifos-methyl	Insecticide	320	0,6%	0,3	1,14	1,14	1,14	162	0,0				158	0,6	1,14	1,14	1,14
Cypermethrin	Insecticide	320	13,1%	9,7	2,38	1,02	7,47	162	9,3	2,44	1,02	9,03	158	10,1	1,85	1,10	6,88
Cyprodinil	Fungicide	320	1,6%	1,6	5,61	4,17	136,02	162	1,9	5,61	5,03	146,19	158	1,3	18,42	5,42	31,43
Cyprodinil metabolite CGA304075	Fungicide	320	6,9%	6,9	3,32	2,73	6,21	162	6,8	3,19	2,67	23,21	158	7,0	3,37	2,84	4,92
DDD p,p'	insecticide	320	0,6%	0,3	1,97	1,97	1,97	162	0,6	1,97	1,97	1,97	158	0,0			
DDE p,p'	insecticide	320	47,8%	8,8	1,88	1,08	5,33	162	10,5	2,32	1,11	6,27	158	7,0	1,49	1,09	2,66
DDT p,p'	insecticide	320	0,3%	0,0				162	0,0				158	0,0			
Deltamethrin	insecticide	320	7,8%	7,8	3,58	1,24	23,72	162	5,6	3,79	1,12	20,68	158	10,1	3,56	1,31	14,20
Difenoconazole	Fungicide	320	1,3%	1,3	1,42	1,13	2,27	162	0,6	1,45	1,45	1,45	158	1,9	1,39	1,11	2,32
Dinotefuran	insecticide	320	0,6%	0,6	1,25	1,22	1,29	162	0,0				158	1,3	1,25	1,22	1,29
Esfenvalerate/fenvalerate	insecticide	320	2,5%	1,6	3,89	1,28	4,19	162	1,9	2,21	1,16	4,04	158	1,3	3,93	3,89	3,97
Ethofumesate	Herbicide	320	0,6%	0,6	1,43	1,15	1,72	162	0,6	1,75	1,75	1,75	158	0,6	1,12	1,12	1,12
fenbuconazole	Fungicide	320	1,6%	1,6	4,87	4,10	10,99	162	1,9	5,75	4,86	11,64	158	1,3	4,40	3,98	4,82
fenhexamid	Fungicide	320	6,3%	6,3	6,23	3,72	37,71	162	6,2	5,37	3,27	20,56	158	6,3	7,07	3,81	62,05

Table 4.3.2 continued Faeces samples PPP (µg/kg) across all measured CSS and stratified by gender. Only detected PPPs are included in the table. 71 PPPs out of the 194 analysed PPPs were detected in human faeces samples

		Total						Male					Female				
PPP		n	% > LOD	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95
Fenpropidin	Fungicide	320	0,9%	0,9	1,75	1,72	3,31	162	1,2	2,62	1,84	3,39	158	0,6	1,72	1,72	1,72
Fipronil sulfone	insecticide	320	0,6%	0,6	1,46	1,16	1,77	162	0,0				158	1,3	1,46	1,16	1,77
Flonicamid	insecticide	320	1,3%	1,3	1,18	1,01	3,64	162	1,9	1,35	1,04	3,77	158	0,6	1,01	1,01	1,01
Fludioxonil	Fungicide	320	4,7%	4,7	2,65	1,03	26,52	162	6,2	4,04	1,03	21,46	158	3,2	2,37	1,40	23,44
Fluopyram	Fungicide	320	1,6%	1,6	1,07	1,07	8,88	162	1,9	1,07	1,07	8,74	158	1,3	3,56	1,32	5,80
Fluopyram benzamide	Fungicide	320	1,3%	1,3	1,83	1,11	2,09	162	0,6	1,00	1,00	1,00	158	1,9	1,95	1,73	2,10
Fluroxypyr (only free)	Herbicide	320	1,3%	1,3	1,54	1,17	2,53	162	2,5	1,54	1,17	2,53	158	0,0			
Fluxapyroxad	Fungicide	320	0,3%	0,3	1,21	1,21	1,21	162	0,6	1,21	1,21	1,21	158	0,0			
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	320	10,6%	4,7	13,15	8,72	26,24	162	4,9	13,86	10,27	22,69	158	4,4	11,25	6,93	24,68
Hexachlorobenzene	Fungicide	320	22,8%	1,3	0,75	0,21	1,54	162	1,2	0,92	0,32	1,52	158	1,3	0,73	0,26	1,20
Imazalil	Fungicide	320	4,7%	4,7	3,20	2,37	9,03	162	3,7	4,97	2,75	11,92	158	5,7	2,84	2,26	3,78
Indoxacarb	Insecticide	320	0,3%	0,3	2,70	2,70	2,70	162	0,0				158	0,6	2,70	2,70	2,70
lambda-Cyhalothrin	Insecticide	320	11,3%	8,8	2,45	1,21	41,44	162	5,6	2,48	1,31	6,23	158	12,0	2,44	1,17	63,38
Mandipropamid	Fungicide	320	0,6%	0,6	1,41	1,26	1,57	162	1,2	1,41	1,26	1,57	158	0,0			
MCPA	Herbicide	320	0,3%	0,3	2,35	2,35	2,35	162	0,6	2,35	2,35	2,35	158	0,0			
Metalaxyl Metabolite CGA 62826 (87764-37-2)	Fungicide	320	1,3%	1,3	5,94	3,16	9,73	162	2,5	5,94	3,16	9,73	158	0,0			
Metamitron-desamino	Herbicide	320	0,3%	0,0				162	0,6	5,23	5,23	5,23	158	0,0			
Methiocarb sulfon	Insecticide	320	2,2%	2,2	1,59	1,09	2,05	162	1,2	1,41	1,24	1,57	158	3,2	1,59	1,08	2,11
Metolachlor (S)	Herbicide	320	0,9%	0,9	7,50	6,14	7,97	162	1,2	7,00	6,09	7,92	158	0,6	7,50	7,50	7,50
Metolachlor ethane sulfonic acid	Herbicide	320	2,5%	2,5	1,35	1,05	2,10	162	2,5	1,35	1,06	1,75	158	2,5	1,41	1,16	2,14
Metribuzin	Herbicide	320	0,3%	0,3	4,22	4,22	4,22	162	0,6	4,22	4,22	4,22	158	0,0			
Oxadixyl	Fungicide	320	4,1%	4,1	5,25	1,27	88,10	162	4,3	4,71	1,64	83,41	158	3,8	14,77	1,27	66,09
Pendimethalin	Herbicide	320	41,6%	5,0	5,78	1,36	10,13	162	7,4	5,91	2,29	10,26	158	2,5	3,25	1,26	7,03
Permethrin	Insecticide	320	4,1%	3,4	1,68	1,12	6,33	162	4,9	1,32	1,12	6,99	158	1,9	1,72	1,69	2,87
Phoxim	Insecticide	320	5,3%	5,3	1,37	1,05	7,36	162	4,9	1,30	1,07	14,67	158	5,7	1,57	1,10	3,46
Piperonyl butoxide	Insecticide	320	9,4%	9,4	6,95	2,99	39,83	162	9,3	10,58	2,64	34,46	158	9,5	4,95	3,47	39,37

Table 4.3.2 continued Faeces samples PPP (µg/kg) across all measured CSS and stratified by gender. Only detected PPPs are included in the table. 71 PPPs out of the 194 analysed PPPs were detected in human faeces samples

PPP		Total						Male					Female				
		n	% > LOD	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95
Pirimiphos-methyl	Insecticide	320	1,6%	1,6	1,68	1,06	5,54	162	1,2	3,47	1,52	5,42	158	1,9	1,68	1,07	4,83
Propiconazole	Fungicide	320	0,3%	0,3	2,44	2,44	2,44	162	0,0				158	0,6	2,44	2,44	2,44
Propoxur	Insecticide	320	0,3%	0,3	2,06	2,06	2,06	162	0,6	2,06	2,06	2,06	158	0,0			
Pyraclostrobin	Fungicide	320	0,6%	0,6	1,19	1,16	1,22	162	0,6	1,22	1,22	1,22	158	0,6	1,16	1,16	1,16
Pyrimethanil	Fungicide	320	0,6%	0,6	24,11	12,68	35,54	162	0,6	36,81	36,81	36,81	158	0,6	11,41	11,41	11,41
Pyrimethanil_M605F002	Fungicide	320	1,3%	1,3	6,19	3,11	9,15	162	1,2	8,58	7,85	9,31	158	1,3	3,72	2,94	4,51
Pyriproxyfen	Insecticide	320	0,6%	0,6	1,93	1,12	2,75	162	0,6	2,84	2,84	2,84	158	0,6	1,03	1,03	1,03
Pyroxsulam	Herbicide	320	5,9%	5,9	5,40	1,21	39,35	162	6,8	8,41	1,39	29,27	158	5,1	2,90	1,20	31,95
Rimsulfuron	Herbicide	320	0,3%	0,3	11,02	11,02	11,02	162	0,6	11,02	11,02	11,02	158	0,0			
Sedaxane	Fungicide	320	1,6%	1,3	5,40	4,16	5,94	162	0,6	5,07	5,07	5,07	158	1,9	5,73	4,18	5,95
Spirotetramat-enol	Insecticide	320	16,3%	16,3	2,32	1,11	8,94	162	19,1	2,32	1,18	9,99	158	13,3	2,31	1,12	8,20
Spirotetramat-enol-glucoside	Insecticide	320	4,1%	4,1	3,14	1,85	7,81	162	3,7	2,84	1,78	5,38	158	4,4	3,74	2,20	9,06
Spirotetramat-keto-hydroxy	Insecticide	320	2,8%	2,2	3,80	2,99	6,18	162	1,2	4,92	3,91	5,93	158	3,2	3,65	2,97	5,94
Spirotetramat-mono-hydroxy	Insecticide	320	0,0%	0,6	3,61	3,59	3,63	162	0,6	3,63	3,63	3,63	158	0,6	3,59	3,59	3,59
tau-Fluvalinate	Insecticide	320	0,9%	0,9	8,15	6,56	10,34	162	0,6	10,58	10,58	10,58	158	1,3	7,27	6,47	8,06
Terbuthylazine-desethyl	Herbicide	320	0,3%	0,3	1,04	1,04	1,04	162	0,0				158	0,6	1,04	1,04	1,04
Thiabendazole	Insecticide	320	0,9%	0,9	3,87	1,51	6,11	162	1,9	3,87	1,51	6,11	158	0,0			
Thiophanate-methyl	Fungicide	320	3,8%	3,8	1,35	1,03	4,49	162	3,7	1,30	1,06	3,15	158	3,8	1,59	1,05	4,84
Tri-allate	Herbicide	320	0,6%	0,6	3,67	3,39	3,95	162	0,6	3,36	3,36	3,36	158	0,6	3,99	3,99	3,99
Trifloxystrobin	Fungicide	320	0,6%	0,6	1,78	1,20	2,36	162	0,6	1,13	1,13	1,13	158	0,6	2,43	2,43	2,43
Trifloxystrobin metabolite CGA 321113	Fungicide	320	1,9%	1,9	3,47	1,43	3,99	162	2,5	3,74	1,99	4,01	158	1,3	2,32	1,44	3,20

Table 4.3.3 Faeces samples PPP (μg/kg) across all measured CSS for <u>farmers</u> stratified by conventional and organic farming. 52 PPPs out of the 194 analysed PPPs were detected in faeces samples from farmers.

		Total						Conventional						Organic					
PPP		n	% > LOD	% >LOQ	Median	p5	p95	n	% > LOD	% >LOQ	Media	p5	p95	n	% > LOD	% >LOQ	Median	p5	p95
Acetamiprid: Acetamiprid-N-desmethyl	Insecticide	110	1,8%	1,8	1,40	1,31	1,49	51	1,9%	1,96	1,30	1,30	1,30	59	1,7%	1,7	1,50	1,50	1,50
bifenthrin	Insecticide	110	0,9%	0,9	3,94	3,94	3,94	51	1,9%	1,96	3,94	3,94	3,94	59	0,0%	0,0			
captan THPI	Fungicide	110	3,6%	3,6	1,23	1,05	3,33	51	1,9%	1,96	1,31	1,31	1,31	59	5,1%	5,1	1,15	1,05	3,44
Chlorpyrifos	Insecticide	110	1,8%	0,0				51	1,9%	0,00				59	1,7%	0,0			
Chlorpyrifos-methyl	Insecticide	110	1,8%	0,9	1,14	1,14	1,14	51	3,8%	1,96	1,14	1,14	1,14	59	0,0%	0,0			
Cypermethrin	Insecticide	110	20,5%	16,4	2,47	1,01	10,11	51	17,0%	13,73	1,21	1,02	7,56	59	23,7%	18,6	2,50	1,22	12,34
Cyprodinil	Fungicide	110	0,9%	0,9	3,97	3,97	3,97	51	1,9%	1,96	3,97	3,97	3,97	59	0,0%	0,0			
Cyprodinil metabolite CGA304075	Fungicide	110	5,4%	4,5	2,85	2,74	3,67	51	9,4%	7,84	2,85	2,80	3,73	59	1,7%	1,7	2,73	2,73	2,73
DDD p,p'	insecticide	110	1,8%	0,9	1,97	1,97	1,97	51	3,8%	1,96	1,97	1,97	1,97	59	0,0%	0,0			
DDE p,p'	insecticide	110	51,8%	16,4	2,22	1,06	6,12	51	50,9%	17,65	2,24	1,33	7,04	59	52,5%	15,3	2,19	1,03	5,28
DDT p,p'	insecticide	110	0,9%	0,0				51	1,9%	0,00				59	0,0%	0,0			
Deltamethrin	insecticide	110	9,8%	10,0	3,11	1,28	9,52	51	11,3%	11,76	2,28	1,25	8,35	59	8,5%	8,5	4,33	2,29	8,92
Difenoconazole	Fungicide	110	1,8%	1,8	1,93	1,49	2,37	51	3,8%	3,92	1,93	1,49	2,37	59	0,0%	0,0			
Esfenvalerate/fenvalerate	insecticide	110	0,9%	0,9	3,89	3,89	3,89	51	0,0%	0,00				59	1,7%	1,7	3,89	3,89	3,89
Ethofumesate	Herbicide	110	0,9%	0,9	1,75	1,75	1,75	51	1,9%	1,96	1,75	1,75	1,75	59	0,0%	0,0			
fenbuconazole	Fungicide	110	2,7%	2,7	4,87	4,02	11,56	51	1,9%	1,96	4,87	4,87	4,87	59	3,4%	3,4	8,12	4,35	11,88
fenhexamid	Fungicide	110	6,3%	6,4	17,02	3,13	66,90	51	11,3%	11,76	15,27	3,08	68,83	59	1,7%	1,7	27,08	27,08	27,08
Fenpropidin	Fungicide	110	0,9%	0,9	3,48	3,48	3,48	51	1,9%	1,96	3,48	3,48	3,48	59	0,0%	0,0			
Flonicamid	insecticide	110	0,9%	0,9	1,01	1,01	1,01	51	1,9%	1,96	1,01	1,01	1,01	59	0,0%	0,0			
Fluopyram	Fungicide	110	0,9%	0,9	1,07	1,07	1,07	51	1,9%	1,96	1,07	1,07	1,07	59	0,0%	0,0			
Fluopyram benzamide	Fungicide	110	1,8%	1,8	1,36	1,04	1,67	51	1,9%	1,96	1,00	1,00	1,00	59	1,7%	1,7	1,71	1,71	1,71
Fluroxypyr (only free)	Herbicide	110	0,9%	0,9	2,70	2,70	2,70	51	1,9%	1,96	2,70	2,70	2,70	59	0,0%	0,0			
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	110	6,3%	2,7	18,69	15,86	26,40	51	7,5%	3,92	22,97	19,12	26,82	59	5,1%	1,7	15,55	15,55	15,55
Hexachlorobenzene	Fungicide	110	32,1%	3,6	0,75	0,21	1,54	51	28,3%	3,92	1,42	1,27	1,57	59	35,6%	3,4	0,23	0,21	0,25

Table 4.3.3 continued Faeces samples PPP (µg/kg) across all measured CSS for <u>farmers</u> stratified by conventional and organic farming

		Total						Conventional						Organic					
PPP		n	% > LOD	% >LOQ	Median	p5	p95	n	% > LOD	% >LOQ	Median	p5	p95	n	% > LOD	% >LOQ	Median	p5	p95
Imazalil	Fungicide	110	3,6%	3,6	5,18	2,95	12,56	51	3,8%	3,92	5,18	3,45	6,91	59	3,4%	3,4	8,21	3,42	12,99
Indoxacarb	Insecticide	110	0,9%	0,9	2,70	2,70	2,70	51	1,9%	1,96	2,70	2,70	2,70	59	0,0%	0,0			
lambda-Cyhalothrin	Insecticide	110	8,0%	6,4	2,06	1,15	3,05	51	7,5%	5,88	2,74	2,48	3,14	59	8,5%	6,8	1,57	1,09	2,01
MCPA	Herbicide	110	0,9%	0,9	2,35	2,35	2,35	51	1,9%	1,96	2,35	2,35	2,35	59	0,0%	0,0			
Metamitron-desamino	Herbicide	110	0,9%	0,9	5,23	5,23	5,23	51	1,9%	1,96	5,23	5,23	5,23	59	0,0%	0,0			
Methiocarb sulfon	Insecticide	110	2,7%	2,7	1,22	1,07	1,55	51	3,8%	3,92	1,14	1,06	1,21	59	1,7%	1,7	1,59	1,59	1,59
Metolachlor ethane sulfonic acid	Herbicide	110	2,7%	2,7	1,36	1,04	1,78	51	1,9%	1,96	1,36	1,36	1,36	59	3,4%	3,4	1,42	1,05	1,78
Oxadixyl	Fungicide	110	7,1%	7,3	1,82	1,27	26,01	51	1,9%	1,96	1,58	1,58	1,58	59	11,9%	11,9	1,85	1,27	27,61
Pendimethalin	Herbicide	110	44,6%	5,5	4,29	1,38	8,70	51	35,8%	7,84	5,04	1,92	8,88	59	52,5%	3,4	3,56	1,47	5,64
Permethrin	Insecticide	110	3,6%	1,8	1,49	1,29	1,70	51	1,9%	0,00				59	5,1%	3,4	1,49	1,29	1,70
Phoxim	Insecticide	110	8,0%	8,2	1,44	1,10	3,46	51	5,7%	5,88	1,26	1,05	1,54	59	10,2%	10,2	1,51	1,20	3,58
Piperonyl butoxide	Insecticide	110	3,6%	3,6	3,85	2,43	40,12	51	5,7%	5,88	4,95	2,97	42,19	59	1,7%	1,7	2,37	2,37	2,37
Pirimiphos-methyl	Insecticide	110	1,8%	1,8	3,43	1,85	5,00	51	1,9%	1,96	1,68	1,68	1,68	59	1,7%	1,7	5,18	5,18	5,18
Propoxur	Insecticide	110	0,9%	0,9	2,06	2,06	2,06	51	1,9%	1,96	2,06	2,06	2,06	59	0,0%	0,0			
Pyraclostrobin	Fungicide	110	0,9%	0,9	1,22	1,22	1,22	51	0,0%	0,00				59	1,7%	1,7	1,22	1,22	1,22
Pyriproxyfen	Insecticide	110	0,9%	0,9	1,03	1,03	1,03	51	0,0%	0,00				59	1,7%	1,7	1,03	1,03	1,03
Pyroxsulam	Herbicide	110	5,4%	5,5	3,56	1,29	31,41	51	7,5%	7,84	5,68	1,84	34,81	59	3,4%	3,4	1,62	1,54	1,71
Sedaxane	Fungicide	110	3,6%	2,7	5,07	4,11	5,89	51	3,8%	1,96	4,00	4,00	4,00	59	3,4%	3,4	5,52	5,11	5,93
Spirotetramat-enol	Insecticide	110	17,0%	17,3	2,33	1,08	4,79	51	17,0%	17,65	1,80	1,12	3,87	59	16,9%	16,9	2,97	1,17	7,32
Spirotetramat-enol-glucoside	Insecticide	110	3,6%	3,6	2,57	1,67	4,13	51	3,8%	3,92	3,16	2,12	4,19	59	3,4%	3,4	2,38	1,69	3,07
Spirotetramat-keto-hydroxy	Insecticide	110	3,6%	1,8	4,92	3,91	5,93	51	1,9%	1,96	6,04	6,04	6,04	59	5,1%	1,7	3,80	3,80	3,80
Spirotetramat-mono-hydroxy	Insecticide	110	0,0%	1,8	3,61	3,59	3,63	51	0,0%	0,00				59	0,0%	3,4	3,61	3,59	3,63
tau-Fluvalinate	Insecticide	110	0,9%	0,9	10,58	10,58	10,58	51	0,0%	0,00				59	1,7%	1,7	10,58	10,58	10,58
Terbuthylazine-desethyl	Herbicide	110	0,9%	0,9	1,04	1,04	1,04	51	0,0%	0,00				59	1,7%	1,7	1,04	1,04	1,04
Thiabendazole	Insecticide	110	0,9%	0,9	1,25	1,25	1,25	51	1,9%	1,96	1,25	1,25	1,25	59	0,0%	0,0			
Thiophanate-methyl	Fungicide	110	4,5%	4,5	1,08	1,02	2,23	51	1,9%	1,96	1,05	1,05	1,05	59	6,8%	6,8	1,12	1,02	2,30
Tri-allate	Herbicide	110	0,9%	0,9	3,36	3,36	3,36	51	0,0%	0,00				59	1,7%	1,7	3,36	3,36	3,36
Trifloxystrobin metabolite CGA 321113	Fungicide	110	2,7%	2,7	1,69	1,38	3,81	51	1,9%	1,96	4,04	4,04	4,04	59	3,4%	3,4	1,52	1,36	1,68

Table 4.3.4 Faeces samples PPP (μg/kg) across all measured CSS for <u>farmers</u> stratified by gender. 52 PPPs out of the 194 analysed PPPs were detected in faeces samples from farmers.

PPP		Total						Male					Female				
		n	% > LOD	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95
Acetamiprid: Acetamiprid-N-desmethyl	Insecticide	110	1,8%	1,8	1,40	1,31	1,49	60	3,3	1,40	1,31	1,49	50	0,0			
bifenthrin	Insecticide	110	0,9%	0,9	3,94	3,94	3,94	60	1,7	3,94	3,94	3,94	50	0,0			
captan THPI	Fungicide	110	3,6%	3,6	1,23	1,05	3,33	60	5,0	1,31	1,06	3,45	50	2,0	1,15	1,15	1,15
Chlorpyrifos	Insecticide	110	1,8%	0,0				60	0,0				50	0,0			
Chlorpyrifos-methyl	Insecticide	110	1,8%	0,9	1,14	1,14	1,14	60	0,0				50	2,0	1,14	1,14	1,14
Cypermethrin	Insecticide	110	20,5%	16,4	2,47	1,01	10,11	60	16,7	2,54	1,03	12,37	50	16,0	1,59	1,05	7,82
Cyprodinil	Fungicide	110	0,9%	0,9	3,97	3,97	3,97	60	0,0				50	2,0	3,97	3,97	3,97
Cyprodinil metabolite CGA304075	Fungicide	110	5,4%	4,5	2,85	2,74	3,67	60	3,3	2,76	2,73	2,79	50	6,0	2,85	2,85	3,78
DDD p,p'	insecticide	110	1,8%	0,9	1,97	1,97	1,97	60	1,7	1,97	1,97	1,97	50	0,0			
DDE p,p'	insecticide	110	51,8%	16,4	2,22	1,06	6,12	60	21,7	2,33	1,21	6,88	50	10,0	1,47	1,08	2,42
DDT p,p'	insecticide	110	0,9%	0,0				60	0,0				50	0,0			
Deltamethrin	insecticide	110	9,8%	10,0	3,11	1,28	9,52	60	6,7	3,45	1,51	8,36	50	14,0	2,53	1,36	9,29
Difenoconazole	Fungicide	110	1,8%	1,8	1,93	1,49	2,37	60	1,7	1,45	1,45	1,45	50	2,0	2,42	2,42	2,42
e	insecticide	110	0,9%	0,9	3,89	3,89	3,89	60	0,0				50	2,0	3,89	3,89	3,89
Ethofumesate	Herbicide	110	0,9%	0,9	1,75	1,75	1,75	60	1,7	1,75	1,75	1,75	50	0,0			
fenbuconazole	Fungicide	110	2,7%	2,7	4,87	4,02	11,56	60	1,7	12,30	12,30	12,30	50	4,0	4,40	3,98	4,82
fenhexamid	Fungicide	110	6,3%	6,4	17,02	3,13	66,90	60	8,3	13,53	3,03	22,17	50	4,0	55,52	29,93	81,12
Fenpropidin	Fungicide	110	0,9%	0,9	3,48	3,48	3,48	60	1,7	3,48	3,48	3,48	50	0,0			
Flonicamid	insecticide	110	0,9%	0,9	1,01	1,01	1,01	60	1,7	1,01	1,01	1,01	50	0,0			
Fluopyram	Fungicide	110	0,9%	0,9	1,07	1,07	1,07	60	1,7	1,07	1,07	1,07	50	0,0			
Fluopyram benzamide	Fungicide	110	1,8%	1,8	1,36	1,04	1,67	60	1,7	1,00	1,00	1,00	50	2,0	1,71	1,71	1,71
Fluroxypyr (only free)	Herbicide	110	0,9%	0,9	2,70	2,70	2,70	60	1,7	2,70	2,70	2,70	50	0,0			
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	110	6,3%	2,7	18,69	15,86	26,40	60	1,7	15,55	15,55	15,55	50	4,0	22,97	19,12	26,82
Hexachlorobenzene	Fungicide	110	32,1%	3,6	0,75	0,21	1,54	60	3,3	0,92	0,32	1,52	50	4,0	0,73	0,26	1,20
Imazalil	Fungicide	110	3,6%	3,6	5,18	2,95	12,56	60	5,0	7,10	3,31	12,88	50	2,0	3,26	3,26	3,26
Indoxacarb	Insecticide	110	0,9%	0,9	2,70	2,70	2,70	60	0,0				50	2,0	2,70	2,70	2,70

Table 4.3.4 Continued Faeces samples PPP (µg/kg) across all measured CSS for farmers stratified by gender. 52 PPPs out of the 194 analysed PPPs were detected in faeces samples from farmers.

PPP		Total						Male					Female				
		n	% > LOD	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95
lambda-Cyhalothrin	Insecticide	110	8,0%	6,4	2,06	1,15	3,05	60	3,3	2,06	1,46	2,67	50	10,0	2,06	1,19	3,04
MCPA	Herbicide	110	0,9%	0,9	2,35	2,35	2,35	60	1,7	2,35	2,35	2,35	50	0,0			
Metamitron-desamino	Herbicide	110	0,9%	0,9	5,23	5,23	5,23	60	1,7	5,23	5,23	5,23	50	0,0			
Methiocarb sulfon	Insecticide	110	2,7%	2,7	1,22	1,07	1,55	60	3,3	1,41	1,24	1,57	50	2,0	1,05	1,05	1,05
Metolachlor ethane sulfonic acid	Herbicide	110	2,7%	2,7	1,36	1,04	1,78	60	5,0	1,36	1,04	1,78	50	0,0			
Oxadixyl	Fungicide	110	7,1%	7,3	1,82	1,27	26,01	60	8,3	1,85	1,62	30,69	50	6,0	1,28	1,26	4,85
Pendimethalin	Herbicide	110	44,6%	5,5	4,29	1,38	8,70	60	6,7	4,29	1,92	8,65	50	1,8	4,31	1,55	7,06
Permethrin	Insecticide	110	3,6%	1,8	1,49	1,29	1,70	60	1,7	1,26	1,26	1,26	50	0,9	1,72	1,72	1,72
Phoxim	Insecticide	110	8,0%	8,2	1,44	1,10	3,46	60	5,0	1,26	1,21	1,54	50	5,5	1,51	1,08	3,58
Piperonyl butoxide	Insecticide	110	3,6%	3,6	3,85	2,43	40,12	60	5,0	2,75	2,41	41,97	50	0,9	4,95	4,95	4,95
Pirimiphos-methyl	Insecticide	110	1,8%	1,8	3,43	1,85	5,00	60	0,0				50	1,8	3,43	1,85	5,00
Propoxur	Insecticide	110	0,9%	0,9	2,06	2,06	2,06	60	1,7	2,06	2,06	2,06	50	0,0			
Pyraclostrobin	Fungicide	110	0,9%	0,9	1,22	1,22	1,22	60	1,7	1,22	1,22	1,22	50	0,0			
Pyriproxyfen	Insecticide	110	0,9%	0,9	1,03	1,03	1,03	60	0,0				50	0,9	1,03	1,03	1,03
Pyroxsulam	Herbicide	110	5,4%	5,5	3,56	1,29	31,41	60	6,7	3,84	1,56	34,81	50	1,8	3,30	1,42	5,19
Sedaxane	Fungicide	110	3,6%	2,7	5,07	4,11	5,89	60	1,7	5,07	5,07	5,07	50	1,8	4,99	4,10	5,88
Spirotetramat-enol	Insecticide	110	17,0%	17,3	2,33	1,08	4,79	60	23,3	2,33	1,06	4,19	50	4,5	3,79	1,90	8,67
Spirotetramat-enol-glucoside	Insecticide	110	3,6%	3,6	2,57	1,67	4,13	60	5,0	3,14	1,76	4,19	50	0,9	2,01	2,01	2,01
Spirotetramat-keto-hydroxy	Insecticide	110	3,6%	1,8	4,92	3,91	5,93	60	3,3	4,92	3,91	5,93	50	0,0			
Spirotetramat-mono-hydroxy	Insecticide	110	0,0%	1,8	3,61	3,59	3,63	60	1,7	3,63	3,63	3,63	50	1,8	3,61	3,59	3,63
tau-Fluvalinate	Insecticide	110	0,9%	0,9	10,58	10,58	10,58	60	1,7	10,58	10,58	10,58	50	0,0			
Terbuthylazine-desethyl	Herbicide	110	0,9%	0,9	1,04	1,04	1,04	60	0,0				50	0,9	1,04	1,04	1,04
Thiabendazole	Insecticide	110	0,9%	0,9	1,25	1,25	1,25	60	1,7	1,25	1,25	1,25	50	0,0			
Thiophanate-methyl	Fungicide	110	4,5%	4,5	1,08	1,02	2,23	60	3,3	1,07	1,05	1,08	50	6,0	1,16	1,03	2,37
Tri-allate	Herbicide	110	0,9%	0,9	3,36	3,36	3,36	60	1,7	3,36	3,36	3,36	50	0,0			
Trifloxystrobin metabolite CGA 321113	Fungicide	110	2,7%	2,7	1,69	1,38	3,81	60	3,3	2,87	1,81	3,92	50	2,0	1,34	1,34	1,34

Table 4.3.5 Faeces samples PPP (µg/kg) across all measured CSS for <u>neighbours and consumers</u> stratified by conventional and organic farming. 62 PPPs out of the 194 analysed PPPs were detected in faeces samples from neighbours and consumers.

PPP		Total						Conventional					Organic					
		n	% > LOD	% > LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% > LOD	% > LOQ	Median	p5	p95
Acetamiprid: Acetamiprid-N-desmethyl	Insecticide	210	1,9%	1,9	2,05	1,16	2,50	79	2,5	2,05	1,97	2,13	64	1,6%	1,6	2,57	2,57	2,57
Azoxystrobin	Fungicide	210	0,5%	0,5	5,59	5,59	5,59	79	1,3	5,59	5,59	5,59	64	0,0%	0,0			
Azoxystrobin-O-demethyl	Fungicide	210	0,5%	0,3	5,59	5,59	5,59	79	1,3	5,59	5,59	5,59	64	0,0%	0,0			
bifenthrin	Insecticide	210	0,5%	0,0				79	0,0				64	1,6%	0,0			
Boscalid	Fungicide	210	0,5%	0,5	12,31	12,31	12,31	79	0,0				64	0,0%	0,0			
captan THPI	Fungicide	210	3,8%	3,8	1,65	1,15	6,13	79	2,5	4,72	1,46	7,99	64	4,7%	4,7	1,94	1,60	1,99
Chlorantraniliprole	Insecticide	210	1,4%	1,4	1,89	1,35	3,03	79	1,3	1,89	1,89	1,89	64	1,6%	1,6	1,29	1,29	1,29
Chlorothalonil 4-hydroxy	Fungicide	210	1,0%	1,0	1,40	1,24	1,56	79	0,0				64	0,0%	0,0			
Chlorpropham	Herbicide	210	1,4%	1,4	1,87	1,51	1,87	79	2,5	1,67	1,49	1,85	64	1,6%	1,6	1,87	1,87	1,87
Chlorpyrifos	Insecticide	210	4,3%	1,9	2,77	1,52	3,07	79	1,3	2,63	2,63	2,63	64	4,7%	4,7	2,92	1,49	3,08
Cypermethrin	Insecticide	210	9,1%	6,2	1,85	1,09	3,97	79	7,6	1,63	1,06	3,98	64	10,9%	6,3	2,57	1,82	3,76
Cyprodinil	Fungicide	210	1,9%	1,9	19,24	5,06	142,47	79	3,8	5,61	5,03	146,19	64	0,0%	0,0			
Cyprodinil metabolite CGA304075	Fungicide	210	7,7%	8,1	3,37	2,78	13,03	79	7,6	4,13	2,88	31,68	64	4,7%	4,7	3,19	2,66	3,30
DDE p,p'	insecticide	210	45,7%	4,8	1,50	1,14	2,81	79	7,6	2,10	1,27	2,83	64	54,7%	3,1	1,34	1,18	1,49
Deltamethrin	insecticide	210	6,7%	6,7	3,71	1,19	27,57	79	5,1	9,01	2,80	25,49	64	7,8%	7,8	3,83	3,19	23,60
Difenoconazole	Fungicide	210	1,0%	1,0	1,24	1,10	1,38	79	0,0				64	1,6%	1,6	1,08	1,08	1,08
Dinotefuran	insecticide	210	1,0%	1,0	1,25	1,22	1,29	79	1,3	1,21	1,21	1,21	64	0,0%	0,0			
Esfenvalerate/fenvalerate	insecticide	210	3,4%	1,9	3,09	1,22	4,21	79	1,3	2,21	2,21	2,21	64	4,7%	4,7	3,98	1,34	4,22
Ethofumesate	Herbicide	210	0,5%	0,5	1,12	1,12	1,12	79	0,3	1,12	1,12	1,12	64	0,0%	0,0			
fenbuconazole	Fungicide	210	1,0%	1,0	5,25	4,81	5,70	79	0,6	5,25	4,81	5,70	64	0,0%	0,0			
fenhexamid	Fungicide	210	6,3%	6,2	5,23	3,83	21,13	79	2,5	5,37	3,99	27,03	64	1,6%	1,6	4,82	4,82	4,82
Fenpropidin	Fungicide	210	1,0%	1,0	1,73	1,72	1,75	79	0,6	1,73	1,72	1,75	64	0,0%	0,0			
Fipronil sulfone	insecticide	210	1,0%	1,0	1,46	1,16	1,77	79	0,0				64	1,6%	1,6	1,13	1,13	1,13
Flonicamid	insecticide	210	1,4%	1,4	1,35	1,04	3,77	79	0,0				64	1,6%	1,6	1,35	1,35	1,35

Table 4.3.5 continued Faeces samples PPP (µg/kg) across all measured CSS for <u>neighbours and consumers</u> stratified by conventional and organic farming

		Total						Conventional					Organic					
PPP		n	% > LOD	% > LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% > LOD	% > LOQ	Median	p5	p95
Fludioxonil	Fungicide	210	7,2%	7,1	2,65	1,03	26,52	79	8,9	5,43	1,08	15,77	64	4,7%	4,7	4,56	2,59	23,69
Fluopyram	Fungicide	210	1,9%	1,9	3,56	1,07	9,06	79	1,3	1,07	1,07	1,07	64	1,6%	1,6	1,07	1,07	1,07
Fluopyram benzamide	Fungicide	210	1,0%	1,0	2,03	1,96	2,10	79	1,3	1,95	1,95	1,95	64	0,0%	0,0			
Fluroxypyr (only free)	Herbicide	210	1,4%	1,4	1,53	1,14	1,56	79	1,3	1,10	1,10	1,10	64	1,6%	1,6	1,53	1,53	1,53
Fluxapyroxad	Fungicide	210	0,5%	0,5	1,21	1,21	1,21	79	0,0				64	1,6%	1,6	1,21	1,21	1,21
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	210	13,0%	5,7	11,47	7,99	20,91	79	6,3	13,15	10,38	23,31	64	15,6%	7,8	11,69	6,40	16,40
Hexachlorobenzene	Fungicide	210	17,8%	0,0				79	0,0				64	20,3%	0,0			
Imazalil	Fungicide	210	5,3%	5,2	2,84	2,30	4,97	79	5,1	3,02	2,72	4,99	64	6,3%	6,3	3,24	2,17	4,53
lambda-Cyhalothrin	Insecticide	210	13,0%	10,0	2,48	1,25	59,27	79	10,1	2,41	1,23	40,65	64	14,1%	12,5	3,51	1,62	67,69
Mandipropamid	Fungicide	210	1,0%	1,0	1,41	1,26	1,57	79	0,0				64	0,0%	0,0			
Metalaxyl Metabolite CGA 62826 (87764-37-2)	Fungicide	210	1,9%	1,9	5,94	3,16	9,73	79	2,5	3,84	2,97	4,72	64	0,0%	0,0			
Methiocarb sulfon	Insecticide	210	1,9%	1,9	1,62	1,23	2,14	79	2,5	1,62	1,59	1,64	64	0,0%	0,0			
Metolachlor (S)	Herbicide	210	1,4%	1,4	7,50	6,14	7,97	79	2,5	7,76	7,53	7,99	64	0,0%	0,0			
Metolachlor ethane sulfonic acid	Herbicide	210	2,4%	2,4	1,33	1,17	2,10	79	1,3	2,25	2,25	2,25	64	1,6%	1,6	1,33	1,33	1,33
Metribuzin	Herbicide	210	0,5%	0,5	4,22	4,22	4,22	79	1,3	4,22	4,22	4,22	64	0,0%	0,0			
Oxadixyl	Fungicide	210	2,4%	2,4	30,29	13,58	98,18	79	3,8	78,02	17,62	100,70	64	0,0%	0,0			
Pendimethalin	Herbicide	210	39,9%	4,8	5,82	3,07	10,32	79	5,1	6,12	5,73	7,11	64	34,4%	4,7	5,29	5,15	9,51
Permethrin	Insecticide	210	4,3%	4,3	1,68	1,12	7,00	79	2,5	1,70	1,41	1,98	64	3,1%	3,1	1,56	1,19	1,94
Phoxim	Insecticide	210	3,8%	3,8	1,36	1,07	14,79	79	3,8	1,94	1,43	19,74	64	3,1%	3,1	1,20	1,06	1,33
Piperonyl butoxide	Insecticide	210	12,5%	12,4	8,30	3,48	31,61	79	8,9	9,44	4,26	47,65	64	6,3%	6,3	7,44	3,58	21,90
Pirimiphos-methyl	Insecticide	210	1,4%	1,4	1,31	1,03	5,20	79	1,3	5,63	5,63	5,63	64	0,0%	0,0			
Propiconazole	Fungicide	210	0,5%	0,5	2,44	2,44	2,44	79	0,0				64	0,0%	0,0			
Pyraclostrobin	Fungicide	210	0,5%	0,5	1,16	1,16	1,16	79	0,0				64	0,0%	0,0			
Pyrimethanil	Fungicide	210	1,0%	1,0	24,11	12,68	35,54	79	0,0				64	0,0%	0,0			
Pyrimethanil_M605F002	Fungicide	210	1,9%	1,9	6,19	3,11	9,15	79	0,0				64	1,6%	1,6	7,77	7,77	7,77
Pyriproxyfen	Insecticide	210	0,5%	0,5	2,84	2,84	2,84	79	0,0				64	1,6%	1,6	2,84	2,84	2,84
Pyroxsulam	Herbicide	210	6,3%	6,2	8,41	1,23	26,90	79	7,6	10,01	1,22	17,27	64	10,9%	10,9	4,21	1,35	33,09
Rimsulfuron	Herbicide	210	0,5%	0,3	11,02	11,02	11,02	79	1,3	11,02	11,02	11,02	64	0,0%	0,0			

Table 4.3.5 continued Faeces samples PPP (µg/kg) across all measured CSS for <u>neighbours and consumers</u> stratified by conventional and organic farming

PPP		Total						Conventional					Organic					
		n	% > LOD	% > LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% > LOD	% > LOQ	Median	p5	p95
Sedaxane	Fungicide	210	0,5%	0,5	5,73	5,73	5,73	79	1,3	5,73	5,73	5,73	64	0,0%	0,0			
Spirotetramat-enol	Insecticide	210	15,9%	15,7	2,19	1,13	10,40	79	17,7	2,73	1,13	18,80	64	12,5%	12,5	2,05	1,15	3,49
Spirotetramat-enol-glucoside	Insecticide	210	4,3%	4,3	3,74	2,38	8,84	79	2,5	2,47	2,31	2,64	64	3,1%	3,1	4,21	2,84	5,59
Spirotetramat-keto-hydroxy	Insecticide	210	2,4%	2,4	3,65	2,97	5,94	79	2,5	5,48	4,80	6,16	64	0,0%	0,0			
tau-Fluvalinate	Insecticide	210	1,0%	1,0	7,27	6,47	8,06	79	0,0				64	3,1%	3,1	7,27	6,47	8,06
Thiabendazole	Insecticide	210	1,0%	1,0	5,11	4,00	6,23	79	1,3	6,35	6,35	6,35	64	0,0%	0,0			
Thiophanate-methyl	Fungicide	210	3,4%	3,3	1,93	1,17	5,00	79	0,0				64	1,6%	1,6	1,25	1,25	1,25
Tri-allate	Herbicide	210	0,5%	0,5	3,99	3,99	3,99	79	1,3	3,99	3,99	3,99	64	0,0%	0,0			
Trifloxystrobin	Fungicide	210	1,0%	1,0	1,78	1,20	2,36	79	1,3	1,13	1,13	1,13	64	1,6%	1,6	2,43	2,43	2,43
Trifloxystrobin metabolite CGA 321113	Fungicide	210	1,4%	1,4	3,64	3,33	3,81	79	1,3	3,64	3,64	3,64	64	0,0%	0,0			

Note: 67 participants (neighbours and consumers) were not classified according to farming system => Thus n for conventional and organic farming strata do not add up to the total number of neighbours and consumers (n=210)

Table 4.3.6 Faeces samples PPP (µg/kg) across all measured CSS for neighbours and consumers stratified by gender.

PPP		Total						Male					Female				
		n	% > LOD	% > LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95
Acetamiprid: Acetamiprid-N-desmethyl	Insecticide	210	1,9%	1,9	2,05	1,16	2,50	102	2,0	2,05	1,97	2,13	108	1,9	1,79	1,10	2,49
Azoxystrobin	Fungicide	210	0,5%	0,5	5,59	5,59	5,59	102	1,0	5,59	5,59	5,59	108	0,0			
Azoxystrobin-O-demethyl	Fungicide	210	0,5%	0,3	5,59	5,59	5,59	102	1,0	5,59	5,59	5,59	108	0,0			
bifenthrin	Insecticide	210	0,5%	0,0				102	0,0				108	0,0			
Boscalid	Fungicide	210	0,5%	0,5	12,31	12,31	12,31	102	0,0				108	0,9	12,31	12,31	12,31
captan THPI	Fungicide	210	3,8%	3,8	1,65	1,15	6,13	102	4,9	1,73	1,13	7,07	108	2,8	1,56	1,32	1,95
Chlorantraniliprole	Insecticide	210	1,4%	1,4	1,89	1,35	3,03	102	2,9	1,89	1,35	3,03	108	0,0			
Chlorothalonil 4-hydroxy	Fungicide	210	1,0%	1,0	1,40	1,24	1,56	102	1,0	1,22	1,22	1,22	108	0,9	1,58	1,58	1,58
Chlorpropham	Herbicide	210	1,4%	1,4	1,87	1,51	1,87	102	2,0	1,67	1,49	1,85	108	0,9	1,87	1,87	1,87
Chlorpyrifos	Insecticide	210	4,3%	1,9	2,77	1,52	3,07	102	2,0	1,98	1,39	2,56	108	1,9	3,01	2,93	3,09
Cypermethrin	Insecticide	210	9,1%	6,2	1,85	1,09	3,97	102	4,9	1,42	1,05	2,97	108	7,4	2,30	1,29	4,05
Cyprodinil	Fungicide	210	1,9%	1,9	19,24	5,06	142,47	102	2,9	5,61	5,03	146,19	108	0,9	32,88	32,88	32,88
Cyprodinil metabolite CGA304075	Fungicide	210	7,7%	8,1	3,37	2,78	13,03	102	8,8	3,32	2,72	26,60	108	7,4	3,68	2,95	5,07
DDE p,p'	insecticide	210	45,7%	4,8	1,50	1,14	2,81	102	3,9	1,88	1,17	2,69	108	5,6	1,50	1,17	2,61
Deltamethrin	insecticide	210	6,7%	6,7	3,71	1,19	27,57	102	4,9	3,83	1,39	24,49	108	8,3	3,58	1,48	20,14
Difenoconazole	Fungicide	210	1,0%	1,0	1,24	1,10	1,38	102	0,0				108	1,9	1,24	1,10	1,38
Dinotefuran	insecticide	210	1,0%	1,0	1,25	1,22	1,29	102	0,0				108	1,9	1,25	1,22	1,29
Esfenvalerate/fenvalerate	insecticide	210	3,4%	1,9	3,09	1,22	4,21	102	2,9	2,21	1,16	4,04	108	0,9	3,98	3,98	3,98
Ethofumesate	Herbicide	210	0,5%	0,5	1,12	1,12	1,12	102	0,0				108	0,9	1,12	1,12	1,12
fenbuconazole	Fungicide	210	1,0%	1,0	5,25	4,81	5,70	102	2,0	5,25	4,81	5,70	108	0,0			
fenhexamid	Fungicide	210	6,3%	6,2	5,23	3,83	21,13	102	4,9	5,23	4,45	10,46	108	7,4	5,88	3,80	26,66
Fenpropidin	Fungicide	210	1,0%	1,0	1,73	1,72	1,75	102	1,0	1,75	1,75	1,75	108	0,9	1,72	1,72	1,72
Fipronil sulfone	insecticide	210	1,0%	1,0	1,46	1,16	1,77	102	0,0				108	1,9	1,46	1,16	1,77
Flonicamid	insecticide	210	1,4%	1,4	1,35	1,04	3,77	102	2,0	2,70	1,48	3,91	108	0,9	1,01	1,01	1,01

Table 4.3.6 continued Faeces samples PPP (µg/kg) across all measured CSS for neighbours and consumers stratified by gender.

PPP		Total						Male					Female				
		n	% > LOD	% > LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95
Fludioxonil	Fungicide	210	7,2%	7,1	2,65	1,03	26,52	102	9,8	4,04	1,03	21,46	108	4,6	2,37	1,40	23,44
Fluopyram	Fungicide	210	1,9%	1,9	3,56	1,07	9,06	102	2,0	5,33	1,50	9,17	108	1,9	3,56	1,32	5,80
Fluopyram benzamide	Fungicide	210	1,0%	1,0	2,03	1,96	2,10	102	0,0				108	1,9	2,03	1,96	2,10
Fluroxypyr (only free)	Herbicide	210	1,4%	1,4	1,53	1,14	1,56	102	2,9	1,53	1,14	1,56	108	0,0			
Fluxapyroxad	Fungicide	210	0,5%	0,5	1,21	1,21	1,21	102	1,0	1,21	1,21	1,21	108	0,0			
folpet PHI (Phthalimide, CAS: 85-41-6)	Fungicide	210	13,0%	5,7	11,47	7,99	20,91	102	6,9	13,28	10,26	23,14	108	4,6	11,02	6,40	12,77
Hexachlorobenzene	Fungicide	210	17,8%	0,0				102	0,0				108	0,0			
Imazalil	Fungicide	210	5,3%	5,2	2,84	2,30	4,97	102	2,9	4,63	2,89	5,24	108	7,4	2,73	2,24	3,81
lambda-Cyhalothrin	Insecticide	210	13,0%	10,0	2,48	1,25	59,27	102	6,9	2,48	1,43	6,25	108	13,0	2,92	1,27	73,64
Mandipropamid	Fungicide	210	1,0%	1,0	1,41	1,26	1,57	102	2,0	1,41	1,26	1,57	108	0,0			
Metalaxyl Metabolite CGA 62826 (87764-37-2)	Fungicide	210	1,9%	1,9	5,94	3,16	9,73	102	3,9	5,94	3,16	9,73	108	0,0			
Methiocarb sulfon	Insecticide	210	1,9%	1,9	1,62	1,23	2,14	102	0,0				108	3,7	1,62	1,23	2,14
Metolachlor (S)	Herbicide	210	1,4%	1,4	7,50	6,14	7,97	102	2,0	7,00	6,09	7,92	108	0,9	7,50	7,50	7,50
Metolachlor ethane sulfonic acid	Herbicide	210	2,4%	2,4	1,33	1,17	2,10	102	1,0	1,33	1,33	1,33	108	3,7	1,41	1,16	2,14
Metribuzin	Herbicide	210	0,5%	0,5	4,22	4,22	4,22	102	1,0	4,22	4,22	4,22	108	0,0			
Oxadixyl	Fungicide	210	2,4%	2,4	30,29	13,58	98,18	102	2,0	57,06	15,52	98,61	108	2,8	30,29	24,89	73,25
Pendimethalin	Herbicide	210	39,9%	4,8	5,82	3,07	10,32	102	7,8	6,12	5,19	10,38	108	1,9	3,25	1,58	4,92
Permethrin	Insecticide	210	4,3%	4,3	1,68	1,12	7,00	102	6,9	1,38	1,12	7,37	108	1,9	2,34	1,75	2,93
Phoxim	Insecticide	210	3,8%	3,8	1,36	1,07	14,79	102	4,9	1,35	1,06	17,65	108	2,8	1,74	1,26	1,92
Piperonyl butoxide	Insecticide	210	12,5%	12,4	8,30	3,48	31,61	102	11,8	10,60	4,03	26,37	108	13,0	4,94	3,45	40,62
Pirimiphos-methyl	Insecticide	210	1,4%	1,4	1,31	1,03	5,20	102	2,0	3,47	1,52	5,42	108	0,5	1,00	1,00	1,00
Propiconazole	Fungicide	210	0,5%	0,5	2,44	2,44	2,44	102	0,0				108	0,5	2,44	2,44	2,44

Table 4.3.6 continued Faeces samples PPP (µg/kg) across all measured CSS for neighbours and consumers stratified by gender.

PPP		Total						Male					Female				
		n	% > LOD	% > LOQ	Median	p5	p95	n	% >LOQ	Median	p5	p95	n	% > LOQ	Median	p5	p95
Pyraclostrobin	Fungicide	210	0,5%	0,5	1,16	1,16	1,16	102	0,0				108	0,5	1,16	1,16	1,16
Pyrimethanil	Fungicide	210	1,0%	1,0	24,11	12,68	35,54	102	1,0	36,81	36,81	36,81	108	0,9	11,41	11,41	11,41
Pyrimethanil_M605F002	Fungicide	210	1,9%	1,9	6,19	3,11	9,15	102	2,0	8,58	7,85	9,31	108	1,9	3,72	2,94	4,51
Pyriproxyfen	Insecticide	210	0,5%	0,5	2,84	2,84	2,84	102	1,0	2,84	2,84	2,84	108	0,0			
Pyroxsulam	Herbicide	210	6,3%	6,2	8,41	1,23	26,90	102	6,9	11,61	1,89	17,27	108	5,6	2,90	1,22	34,05
Rimsulfuron	Herbicide	210	0,5%	0,3	11,02	11,02	11,02	102	1,0	11,02	11,02	11,02	108	0,0			
Sedaxane	Fungicide	210	0,5%	0,5	5,73	5,73	5,73	102	0,0				108	0,9	5,73	5,73	5,73
Spirotetramat-enol	Insecticide	210	15,9%	15,7	2,19	1,13	10,40	102	16,7	2,25	1,28	16,62	108	14,8	2,06	1,11	7,25
Spirotetramat-enol-glucoside	Insecticide	210	4,3%	4,3	3,74	2,38	8,84	102	2,9	2,53	2,31	5,42	108	5,6	4,21	2,67	9,36
Spirotetramat-keto-hydroxy	Insecticide	210	2,4%	2,4	3,65	2,97	5,94	102	0,0				108	4,6	3,65	2,97	5,94
tau-Fluvalinate	Insecticide	210	1,0%	1,0	7,27	6,47	8,06	102	0,0				108	1,9	7,27	6,47	8,06
Thiabendazole	Insecticide	210	1,0%	1,0	5,11	4,00	6,23	102	2,0	5,11	4,00	6,23	108	0,0			
Thiophanate-methyl	Fungicide	210	3,4%	3,3	1,93	1,17	5,00	102	3,9	1,69	1,19	3,32	108	2,8	1,94	1,32	5,25
Tri-allate	Herbicide	210	0,5%	0,5	3,99	3,99	3,99	102	0,0				108	0,9	3,99	3,99	3,99
Trifloxystrobin	Fungicide	210	1,0%	1,0	1,78	1,20	2,36	102	1,0	1,13	1,13	1,13	108	0,9	2,43	2,43	2,43
Trifloxystrobin metabolite CGA 321113	Fungicide	210	1,4%	1,4	3,64	3,33	3,81	102	2,0	3,74	3,65	3,82	108	0,9	3,30	3,30	3,30

5 Comparison of applied PPP across matrices per CSS country

In this chapter applied PPPs across matrices is summarised by CSS.

For CSS-2 (Italy) most matrices are to be measured, and the results are not clear.

For *CSS-4 (Switzerland),* glyphosate was detected in 4 (surface water, sediment, outdoor dust, and human urine) out of 5 measured matrices. For *CSS-6 (Croatia*), glyphosate was measured in 4 (surface water, soil, outdoor dust, human urine) out of 7 matrices. Furthermore, 3 PPPs were detected in 2 out of 7 measured matrices (trifloxystrobin, phosmet and deltamethrin).

For CSS-7 (Slovenia) metolachlor was measured in 3 (soil, outdoor dust, surface water) out of 6 matrices

For CSS-8 (Czech-Republic), at least 3 out of 6 matrices was detected with tebuconazole, Acetamipride, fluopyram and Metconazole

For CSS-10 (Denmark), glyphosate was detected in 4 (soil, surface water, sediment, outdoor dust) out of 5 measured matrices, and Diflufenican was detected in 3 (soil, sediment, outdoor dust) out of 5 matrices.

Table 5.1. The applied active compounds for CSS-2 (Italy) and if this active compounds was detected in the different measured matrixes. Detected =”+”, Not detected =”-“, n.a = not analysed, and to be measured = these samples have not been measured yet for the presence of this active compound.

CSS	Active compound applied	Type of product	Detected in soil	Detected in surface water	Detected in sediment	Detected in outdoor dust	Detected in Human - Blood	Detected in Human - Urine	Detected in Human - Faeces
IT	Cypermethrin	Insecticide	-	-	to be measured	-	to be measured	to be measured	to be measured
IT	Pendimethalin	Herbicide	+	+	to be measured	+	to be measured	to be measured	to be measured
IT	Boscalid	Fungicide	+	-	to be measured	-	to be measured	to be measured	to be measured
IT	Propamocarb	Fungicide	+	-	to be measured	-	to be measured	to be measured	to be measured
IT	Abamectin*	Insecticide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
IT	Metalaxyl (M)	Fungicide	-	-	to be measured	-	to be measured	to be measured	to be measured
IT	lambda-Cyhalothrin	Insecticide	+	-	to be measured	-	to be measured	to be measured	to be measured
IT	Deltamethrin	insecticide	-	-	to be measured	-	to be measured	to be measured	to be measured
IT	Propyzamide	Herbicide	+	-	to be measured	-	to be measured	to be measured	to be measured
IT	Benfluralin*	Herbicide	n.a.	n.a.	n.a.	+	n.a.	n.a.	n.a.
IT	Metazachlor	Herbicide	+	+	to be measured	-	to be measured	to be measured	to be measured
IT	Spirotetramat	Insecticide	-	n.a.	to be measured	-	to be measured	to be measured	to be measured
IT	sulfoxaflor *	Insecticide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
IT	Hexythiazox *	Insecticide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

IT	Chlorantraniliprole	Insecticide	+	-	to be measured	-	to be measured	to be measured	to be measured
IT	penconazole	Fungicide	+	+	to be measured	-	to be measured	to be measured	to be measured
IT	Azoxystrobin	Fungicide	+	+	to be measured	-	to be measured	to be measured	to be measured

*Indicates compounds that were not part of the selected 207 active compounds to be analysed.

Table 5.2: The applied active compounds for CSS-4 (Switzerland) and if this active compounds was detected in the different measured matrixes. Detected =”+”, Not detected =”-“, n.a = not analysed, and to be measured = these samples have not been measured yet for the presence of this active compound.

CSS	Active compound applied	Type of product	Detected in soil	Detected in surface water	Detected in sediment	Detected in outdoor dust	Detected in Human - Blood	Detected in Human - Urine	Detected in Human - Faeces
CH	Captan	Fungicide	+	n.a.	n.a.	-	to be measured	to be measured	n.a.
CH	Penconazol	Fungicide	-	-	-	-	to be measured	to be measured	-
CH	Trifloxystrobin	Fungicide	+	-	-	-	to be measured	to be measured	+
CH	Difenoconazol	Fungicide	+	-	-	-	to be measured	to be measured	-
CH	Azoxystrobin	Fungicide	-	+	-	-	to be measured	to be measured	-
CH	Metalaxyl (M)	Fungicide	-	-	-	-	to be measured	to be measured	-
CH	Fluazinam	Fungicide	-	-	-	-	to be measured	to be measured	-
CH	Paraffin wax*	Fungicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CH	Copper(II) hydroxide*	Fungicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CH	Sulfur*	Fungicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CH	Laminarin*	Fungicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CH	Dithianon*	Fungicide	n.a.	n.a.	n.a.	+	n.a.	n.a.	n.a.
CH	Pirimicarb	Insecticide	+	-	-	-	to be measured	to be measured	-
CH	Glyphosate	Herbicide	to be measured	+	+	+	to be measured	+	-
CH	cyflufenamide	Fungicide	-	-	-	-	to be measured	to be measured	-
CH	Mepanipyrim*	Fungicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CH	Thiophanate-methyl	Fungicide	-	-	-	-	to be measured	to be measured	+
CH	Acetamipride	Insecticide	-	-	-	-	to be measured	to be measured	-

*Indicates compounds that were not part of the selected 207 active compounds to be analysed.

Table 5.3: The applied active compounds for CSS-6 (Croatia) and if this active compounds was detected in the different measured matrixes. Detected ="+", Not detected ="-", n.a = not analysed, and to be measured = these samples have not been measured yet for the presence of this active compound.

CSS	Active compound applied	Type of product	Detected in soil	Detected in surface water	Detected in sediment	Detected in outdoor dust	Detected in Human - Blood	Detected in Human - Urine	Detected in Human - Faeces
HR	copper oxychloride*	Fungicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
HR	Kresoxim-methyl	Fungicide	-	-	-	-	-	-	-
HR	Trifloxystrobin	Fungicide	+	+	-	-	-	-	-
HR	Bacillus thuringiensis *	insecticide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
HR	Phosmet	Insecticide	+	-	-	+	-	-	-
HR	Deltamethrin	insecticide	+	-	-	+	-	-	-
HR	Imidacloprid	Insecticide	-	-	+	-	-	-	-
HR	alpha cypermethrin	Insecticide	-	-	-	-	-	-	-
HR	Acetamipride	Insecticide	+	-	-	-	-	-	-
HR	Copper(I) oxide*	Fungicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
HR	Copper(I) oxide*	Fungicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
HR	Glyphosate	Herbicide	+	+	-	+	-	+	-

*Indicates compounds that were not part of the selected 207 active compounds to be analysed.

Table 5.4: The applied active compounds for CSS-7 (Slovenia) and if this active compounds was detected in the different measured matrixes. Detected =”+”, Not detected =”-“, n.a = not analysed, and to be measured = these samples have not been measured yet for the presence of this active compound.

CSS	Active compound applied	Type of product	Detected in soil	Detected in surface water	Detected in sediment	Detected in outdoor dust	Detected in Human - Blood	Detected in Human - Urine	Detected in Human - Faeces
SL	Metolachlor (S)	Herbicide	+	+	-	+	-	to be measured	-
SL	Foramsulfuron	Herbicide	-	-	-	-	-	to be measured	-
SL	2,4-D (free)	Herbicide	-	-	-	+	-	to be measured	-
SL	Isoxaflutole	Herbicide	-	-	-	-	-	to be measured	-

*Indicates compounds that were not part of the selected 207 active compounds to be analysed.

Table 5.5: The applied active compounds for CSS-8 (Czech-Republic) and if this active compounds was detected in the different measured matrixes. Detected =”+”, Not detected =”-“, n.a = not analysed, and to be measured = these samples have not been measured yet for the presence of this active compound.

CSS	Active compound applied	Type of product	Detected in soil	Detected in surface water	Detected in sediment	Detected in outdoor dust	Detected in Human - Blood	Detected in Human - Urine	Detected in Human - Faeces
CZ	pethoxamid*	Herbicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CZ	Quizalofop (P) free acid	Herbicide	n.a.	-	-	-	-	to be measured	-
CZ	Halauxifen-methyl*	Herbicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CZ	Metconazole	Fungicide	+	+	+	-	-	to be measured	-
CZ	propaquizafob	Herbicide	-	-	-	-	-	to be measured	-
CZ	chlorotoluron	Herbicide	+	+	-	-	-	to be measured	-
CZ	mesotrione*	Herbicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CZ	clomazone	Herbicide	-	+	+	-	-	to be measured	-
CZ	Fluazifop (P) (only free)	Herbicide	-	-	-	-	-	to be measured	-
CZ	prothioconazole	Fungicide	n.a.	-	+	-	-	to be measured	-
CZ	Flupyradifurone	insecticide	+	-	-	-	-	to be measured	-
CZ	Haloxyfop-P (Haloxyfop-R) (free)	Herbicide	n.a.	+	-	-	-	to be measured	-
CZ	Fluopyram	Fungicide	+	+	-	+	+	to be measured	+
CZ	Gamma-cyhalothrin*	Insecticide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CZ	clethodim*	Herbicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CZ	tebuconazole	Fungicide	+	+	+	+	-	to be measured	-
CZ	Acetamipride	Insecticide	+	+	-	+	-	to be measured	+
CZ	Azoxystrobin	Fungicide	+	-	+	-	-	to be measured	-
CZ	mancozeb*	Fungicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CZ	Tembotrione*	Herbicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CZ	Fluroxypyr (only free)	Herbicide	-	-	-	-	-	to be measured	-

*Indicates compounds that were not part of the selected 207 active compounds to be analysed.

Table 5.6 : The applied active compounds for CSS-10 (Denmark) and if this active compounds was detected in the different measured matrixes. Detected =”+”, Not detected =”-“, n.a = not analysed, and to be measured = these samples have not been measured yet for the presence of this active compound.

CSS	Active compound applied	Type of product	Detected in soil	Detected in surface water	Detected in sediment	Detected in outdoor dust	Detected in Human - Blood	Detected in Human - Urine	Detected in Human - Faeces
DK	Emamectin Benzoate*	Insecticide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
DK	Glyphosate	Herbicide	+	+	+	+	-	to be measured	to be measured
DK	Fluroxypyr (only free)	Herbicide	-	-	-	-	-	to be measured	to be measured
DK	Tribenuron-methyl*	Herbicide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
DK	Diflufenican	Herbicide	+	-	+	+	-	to be measured	to be measured

*Indicates compounds that were not part of the selected 207 active compounds to be analysed.

6. Summary

In this report PPP results from environmental samples (199 soil, 63 surface water, 201 sediment, 20 outdoor dust) and human samples (180 blood, 200 urine and 320 stool samples) are presented. Between 2 (urine) and 194 (faeces) PPPs were analysed. For each table, number of analyzed samples, number of samples > LOQ and/or number of samples > LOD, median concentration, 5th percentile, and 95 percentile of each PPP were provided. Additionally, for each matrix the total number of positive PPPs were indicated.

For all the environmental samples, most PPPs were detected on conventional farms compared to organic farms.

For Soil, a total of 92 different compounds were detected with 86 compounds detected in soils of conventional farms and 35 compounds detected for soils of organic farms. The main metabolite of the herbicide Glyphosate, AMPA was one of the 10 most detected compound, with the highest median and the second highest 95 percentile. DDT p,p' , metabolite of the banned DDT, was also one of the 10 most frequently detected compound with the highest 95 percentile. In general, organic farms have less compounds detected compared to conventional farms.The 10 pesticides residues detected with the highest frequencies considering all CSS are: DDE p,p', captan THPI, Hexachlorobenzene, Chlorpyrifos, DDT p,p', Boscalid, AMPA, DDT o,p', DDD p,p', and Tebuconazole. The 10 pesticide residues with the highest median concentrations in soils considering all CSS are: AMPA, Metobromuron, Iprovalicarb, Glyphosate, Thiophanate-methyl, Metazachlor, Propamocarb, Captan THPI, Fludioxonil, and Pirimicarb.

For surface water, a total of 89 different compounds were detected with 80 compounds detected in surface water bodies near conventional farms and 56 compounds detected in surface water bodies near organic farms. Glyphosate and the banned insecticide Lindane were the 2 compounds that were detected in the largest concentrations in surface water samples. The approved insecticide Spinosyn D and the approved fungicide Azoxystrobin-O-desmethyl were the compounds with the highest median in surface waters. The compound with the highest 95 percentile was the approved herbicide metolachlor. The 10 pesticide residues detected in the highest amount of surface water samples for all CSS are: Lindane (gamma-HCH), Glyphosate, AMPA, Fluopicolide, Tebuconazole, Terbuthylazine-desethyl, Atrazine, Dimethomorph, Azoxystrobin, and Trifloxystrobin. The 10 pesticide residues with the highest median for all surface water samples of all CSS are: Spinosyn A, Azoxystrobin-O-demethyl, Glyphosate, Spinetoram, Dimethenamid (P), Fluopyram benzamide, fenhexamid, Haloxyfop-P (Haloxyfop-R) (free), Fluroxypyr (only free), and 2,4-D (free).

For sediment a total of 54 different compounds were detected with 52 compounds detected in sediments in water bodies near conventional farms and 10 compounds detected in sediments of surface waters near organic farms. Glyphosate and AMPA were the 2 compounds that were detected with the highest median concentration and one of the highest 95 percentile. The approved fungicide Cyprodinil and the approved herbicide dicamba were the compounds with the highest median concentrations in sediment samples. The 2nd and 3rd compound with the highest 95 percentile were the approved fungicides fludioxonil and difenoconazole, respectively. There are less compounds detected in organic farms than in conventional farms in general. The 10 pesticide residue detected in the highest among of sediment samples at all CSS are: AMPA, Glyphosate, Boscalid, Tebuconazole, Fluopicolide, Fludioxonil, Spiroxamine, Dimethomorph, Azoxystrobin, and Difenoconazole. The 10 pesticide residues with the highest median for sediment samples at all CSS are: Cyprodinil, Dicamba, AMPA, Glyphosate, Difenoconazole, Spinosyn A, Spiroxamine, Pencycuron, Spirotetramat-keto-hydroxy, and Imazalil

Compounds detected in outdoor dusts vary from sites to sites. A total of 72 different compounds were detected with 62 compounds detected in outdoor dust of conventional farms and 45 compounds detected for outdoor dust of organic farms. Glyphosate and AMPA were the 2 compounds that were detected in the largest concentration of outdoor dust samples. The approved insecticide Pirimicarb was the compound with the highest median concentration and 95% percentile in outdoor dust samples. The approved herbicide Prosulfocarb and the approved fungicide folpet were the two compounds with the highest 95% percentile for outdoor dust samples. In general, fungicide such as Phthalimid and Folpet are mostly detected in CSS, and usually they contribute to a high concentration in the sample. Anthrachinon, which is a repellence, appeared in all CSS's dust samples. There is no clear evidence between conventional and organic farms. The 10 pesticide residues detected in the highest amount of dust samples for all CSS are: Glyphosat, Anthrachinon, Deet, AMPA, Pendimethalin, Metolachlor, Phthalimid, Terbuthylazin, Terbuthylazin-desethyl, and Folpet. The 10 pesticide residues with the highest median for dust samples of all CSS are: Pirimicarb, Cymoxanil, Pirimicarbdesmethyl, Pirimicarbdesme-form, Flutolanil, Azoxystrobin, Valifenalat, Folpet, Trifloxystrobin, and Metalaxyl.

For Human blood samples overall, 28 pesticides were detected, of which 19 only once. The 9 PPPs detected in more than one sample were DDE p,p', Fipronil sulfone, Hexachlorobenzene, iprovalicarb, Dicloran, Thiacloprid, Cyantraniliprole, Cyprodinil and Fluxapyroxad. The banned organochlorine pesticide metabolite p,p'-DDE was detected in almost all samples (95%). Fipronil sulfone (metabolite of fipronil) was detected in 24% of the samples. Fipronil is no longer approved as crop protection product in the EU but may still be used as biocide or parasiticide in animals/pets. The banned persistent organochlorine pesticides Hexachlorobenzene was detected in 6% of the samples The other pesticides were mostly approved pesticides and were detected only incidentally. For the top 3, no clear difference was seen between a) conventional and organic and b) males and females differences. Looking at only farmers, the top 3 was the same

For humane urine samples the approved herbicides Glyphosate and AMPA only was analysed in samples from three CSS countries (Croatia, Switzerland, and the Netherlands). For Glyphosate 32.5% of the samples were above the LOQ, for AMPA the percentage above LOQ was 22.5%. The %positive was higher for conventional (37.8% and 29.7%) compared to organic (29% and 17.4%). This difference was most evidence among farmers, less so for neighbours and consumers. The %positive was also higher for males (40.2% and 26.8%) compared to females (25.2 and 18.5%). This difference was most evidence among farmers, less so for neighbours and consumers.

For human faeces samples it was decided to include all detects, also those below LOQ. Overall, 64 pesticides/metabolites were detected, many only incidentally. The 10 most detected was DDE p,p, Hexachlorobenzene, Spirotetramat-enol, Cypermethrin, lambda-Cyhalothrin, Folpet PHI (Phthalimide), Piperonyl butoxide, Deltamethrin, Cyprodinil metabolite CGA304075, and Fenhexamid. DDE p,p' (47.8%) and Hexachlorobenzene (22.8%), two persistent and long-banned organochlorine pesticides, were the most frequently found pesticides. The top 10 includes insecticides and fungicides, but not herbicides. Stratification between conventional and organic revealed no overall clear difference. Looking at only farmers, the top 10 was virtually the same.

Applied PPPs across matrices was summarised by CSS with some evident CSS differences. Of note, especially glyphosate was detected in most measured matrices in several SCCs, but also trifloxystrobin, phosmet, deltamethrin, metolachlor, tebuconazole, Acetamipride, fluopyram, Metconazole and Diflufenican was detected in more matrices in at least one CSS.

The results from this report largely support the finding from the recent review on the prevalence and concentrations of the 207 PPPs included in SPRINT (Alaoui et al. 2022). For soil, we could confirm Glyphosate, AMPA and DDE p,p' as commonly detected PPPs in the CSS countries. For surface water, we could confirm a high occurrence of Glyphosate. We could also confirm a high prevalence of DDE p,p' and HCB in human blood samples.

In general, we used % above LOQ to detect PPPs. For human stool samples also % above LOD was provided at this stage, in order to avoid erroneous discarding of findings at this early stage. For some PPPs, in stool there was a substantial difference for LOD and LOQ. For other matrices, e.g. human blood, the difference were negligible.

Finally, the results presented in this report should be considered as preliminary data. Analysis of the remaining samples and matrices are in progress and will add to the number as well as to the diversity of samples analysed.

Furthermore, we will link the data of hazard characteristics of the different compound based on the PPDB data base to define the compounds that will be used in WP4 for the (eco)toxicological tests.

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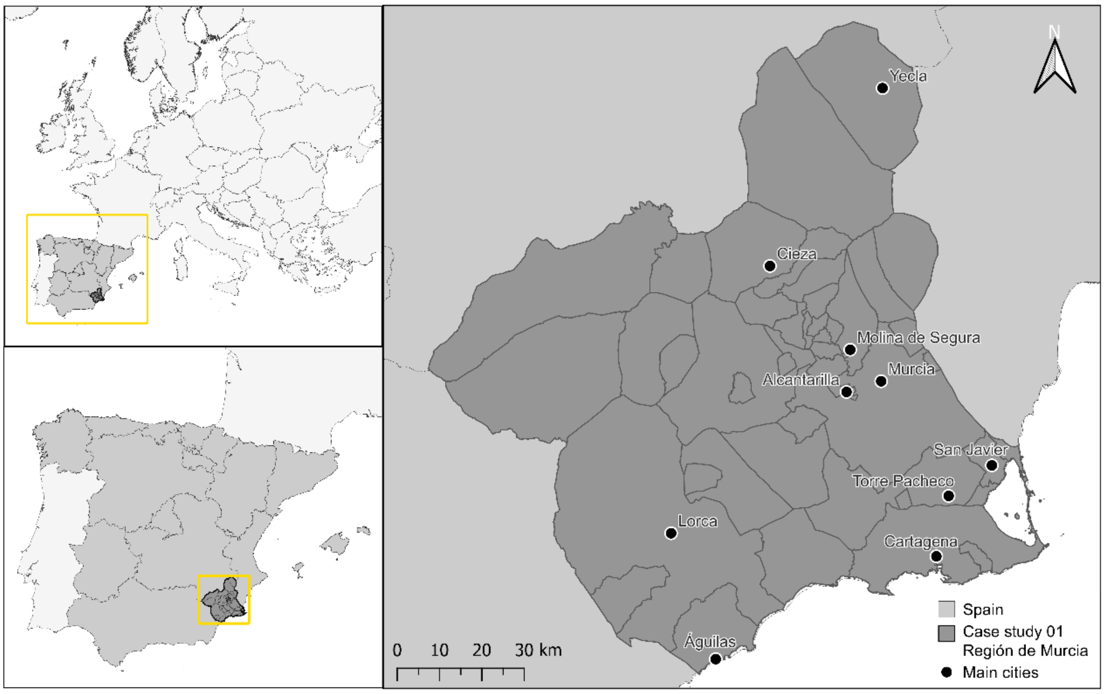
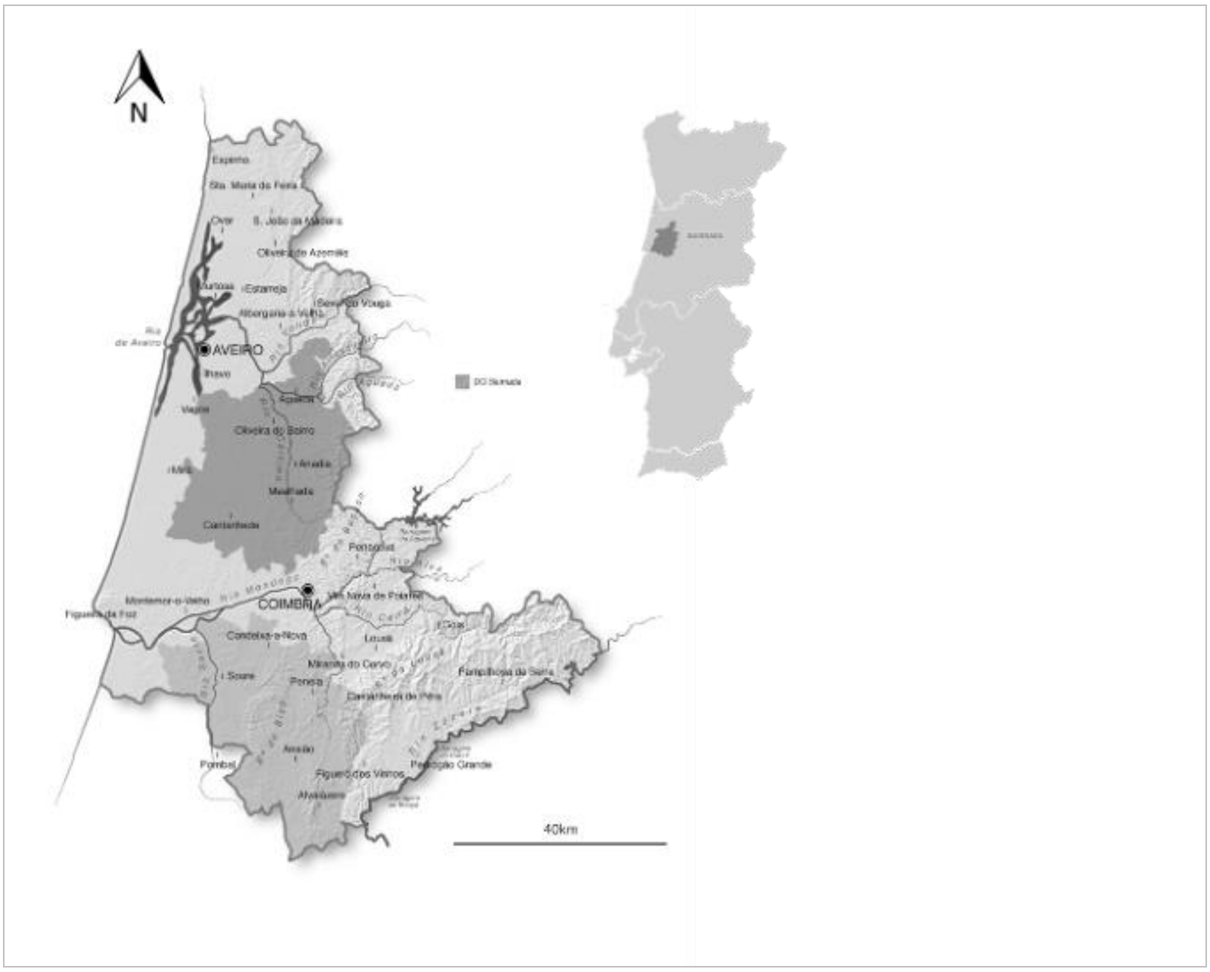
8. Annex 1-3

Annex I: Maps for each CSS

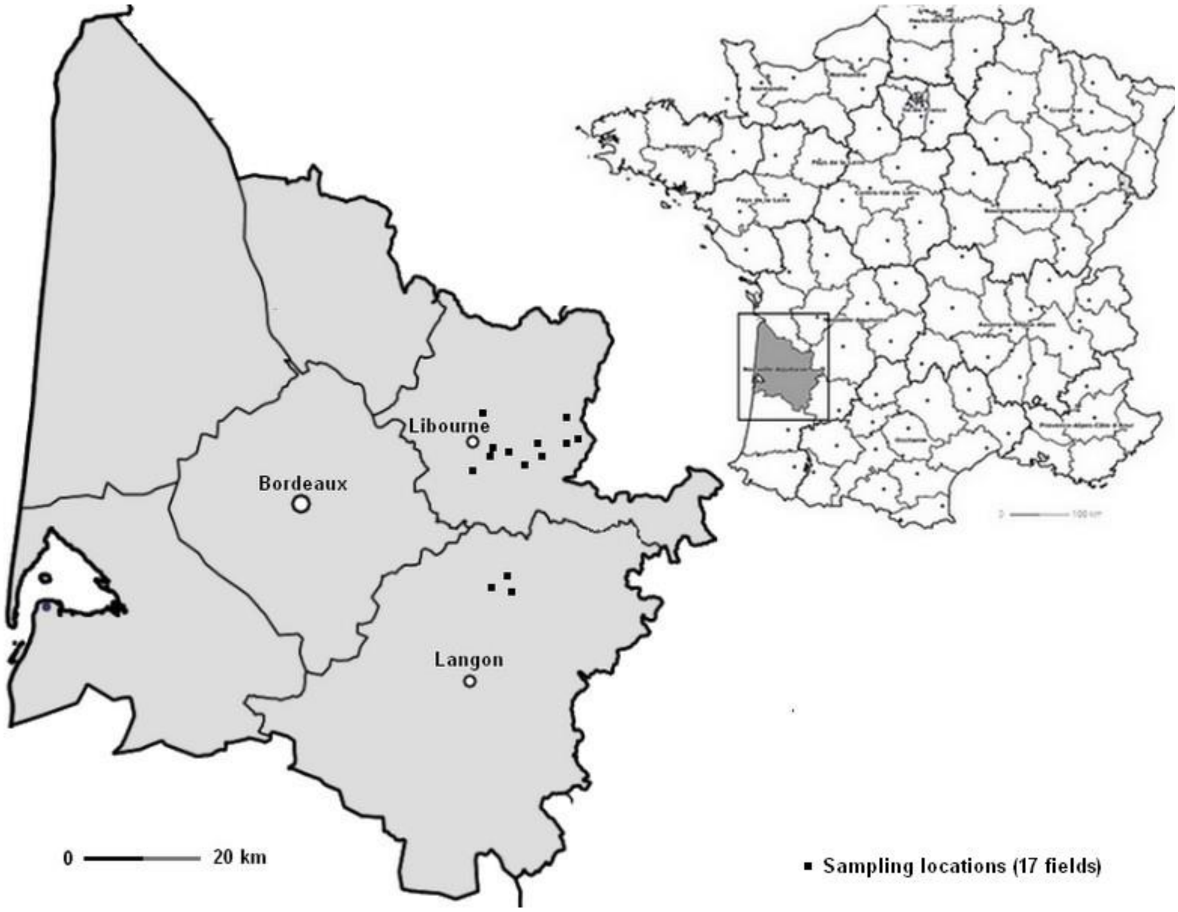
CSS 1 – Spain – Region of Murcia



CSS 2 – Portugal – Region of Bairrada

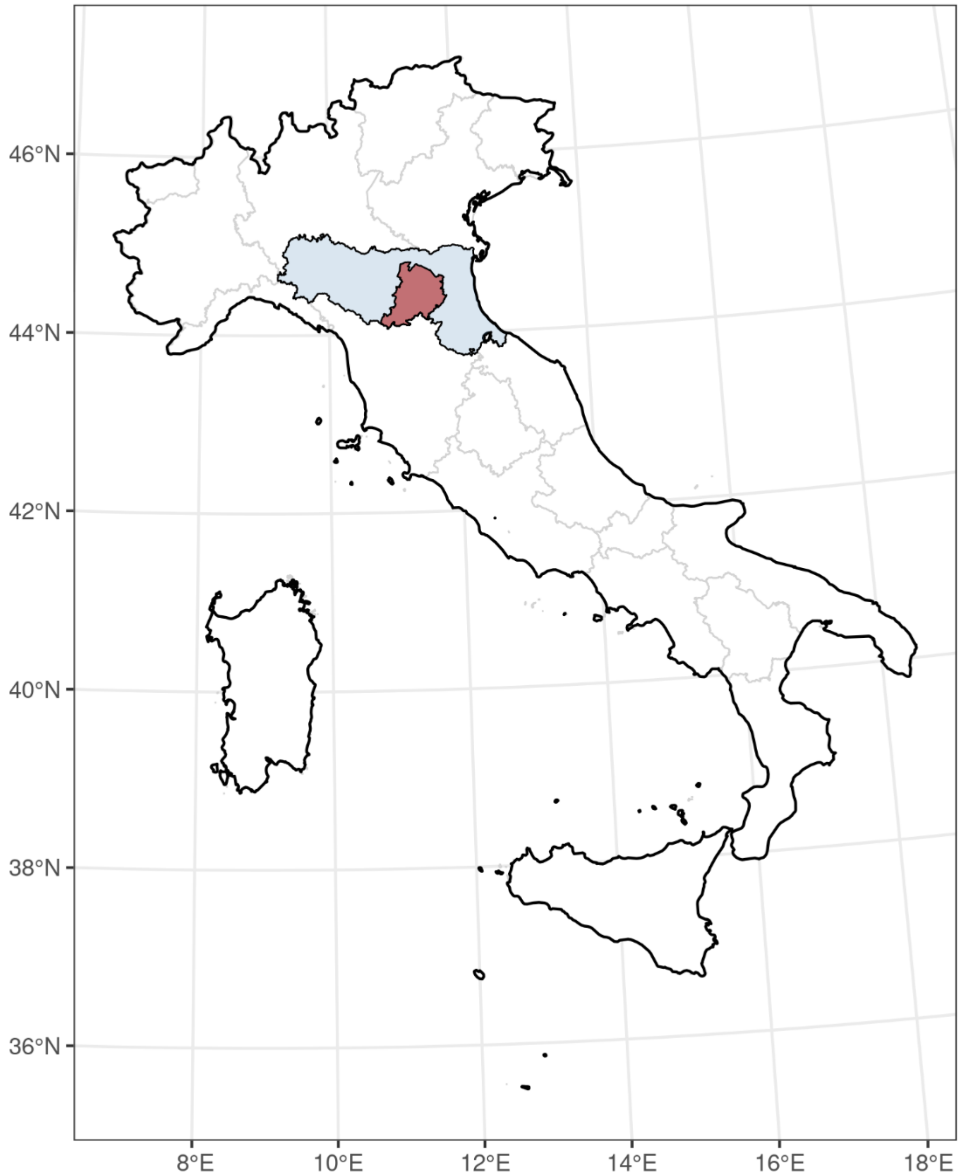


CSS 3 – France – Region of Bordeaux

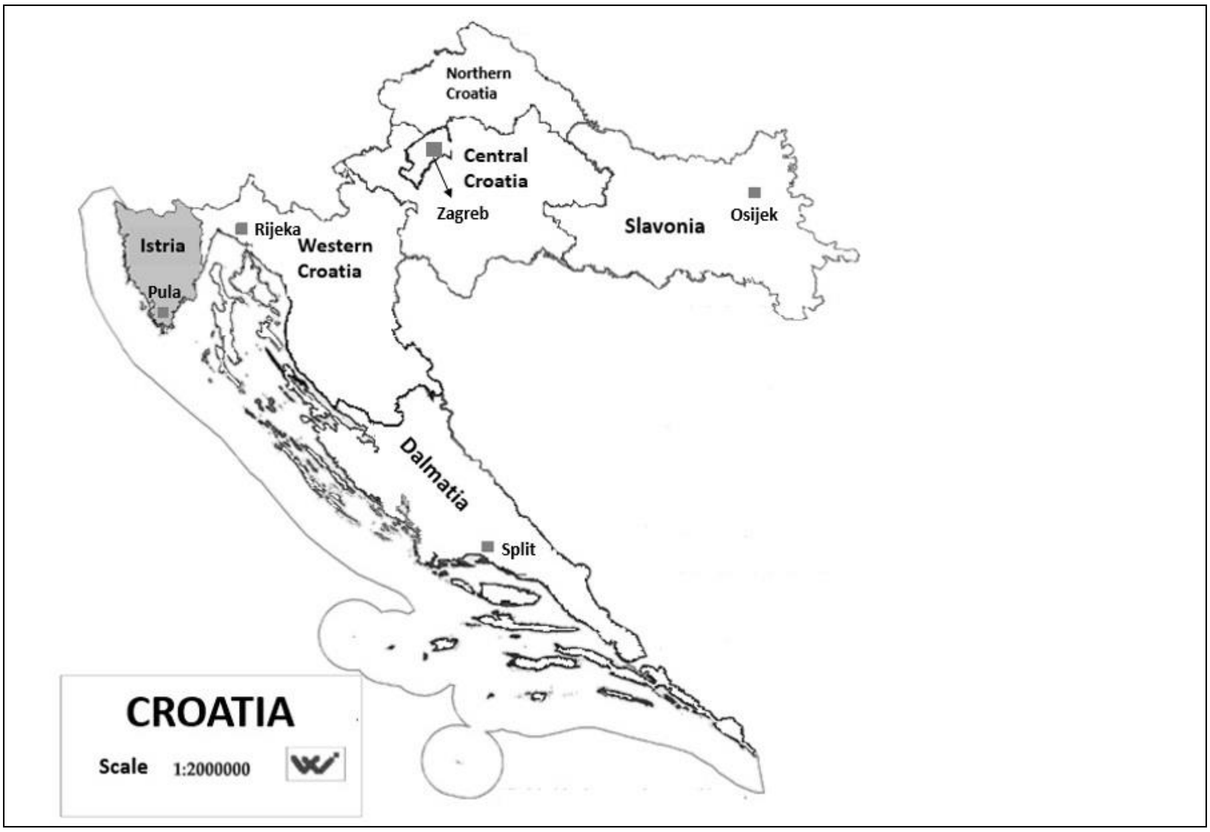


CSS 4 – Switzerland - Canton of Bern and canton of Thurgau

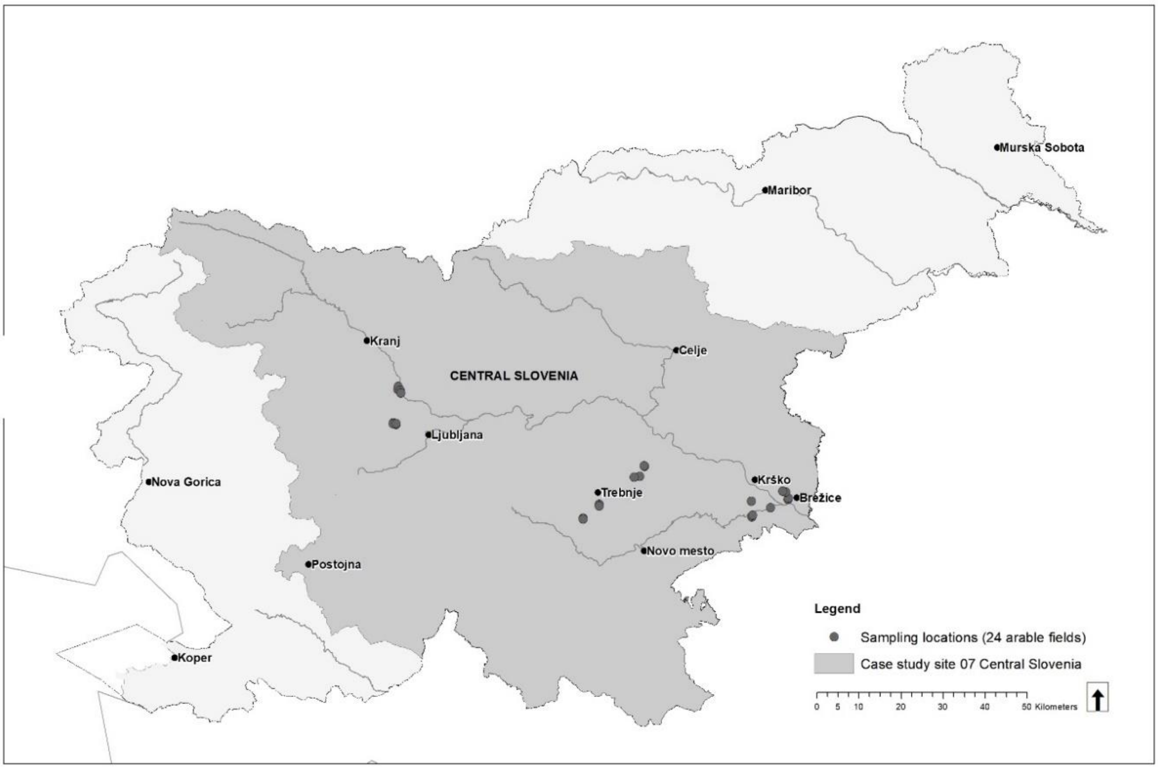
CSS 5 – Italy – Municipality of Cento / Po River Plain



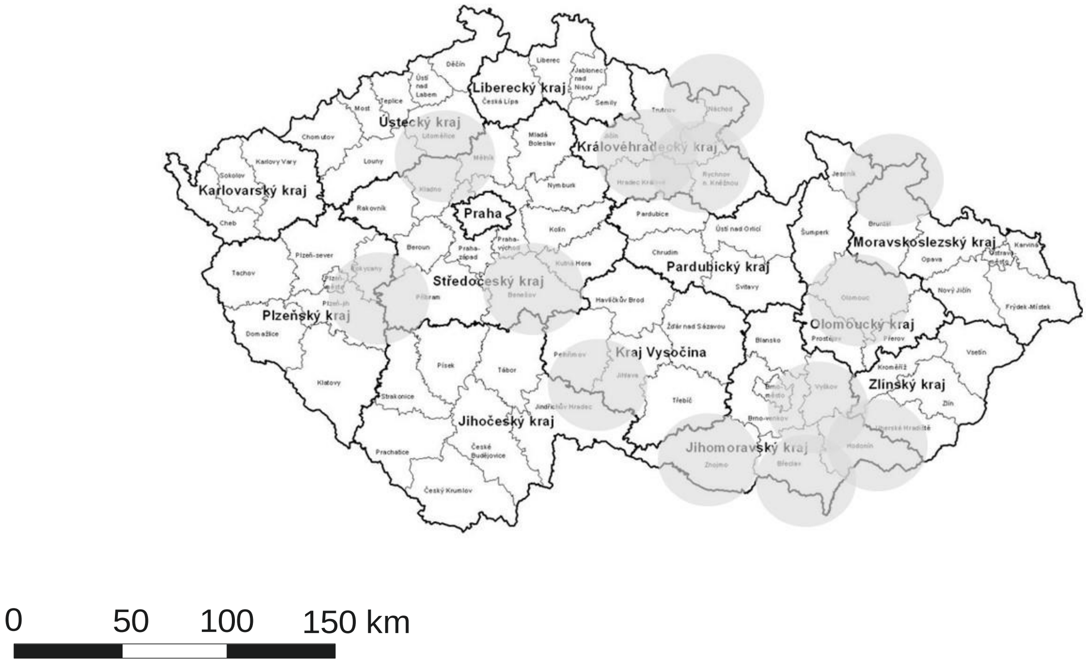
CSS 6 – Croatia - County of Istria



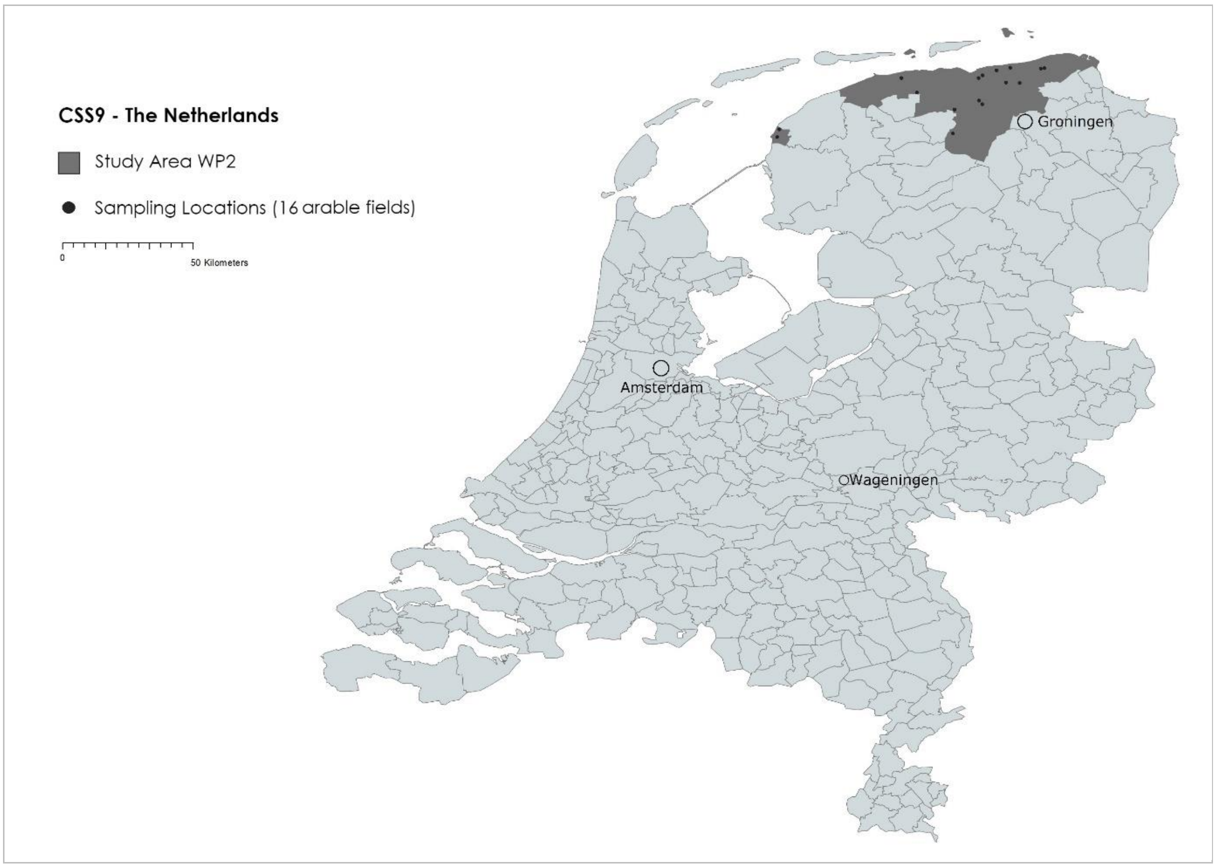
CSS 7 – Slovenia - Region of Central Slovenia



CSS 8 – Czech Republic – Throughout all country

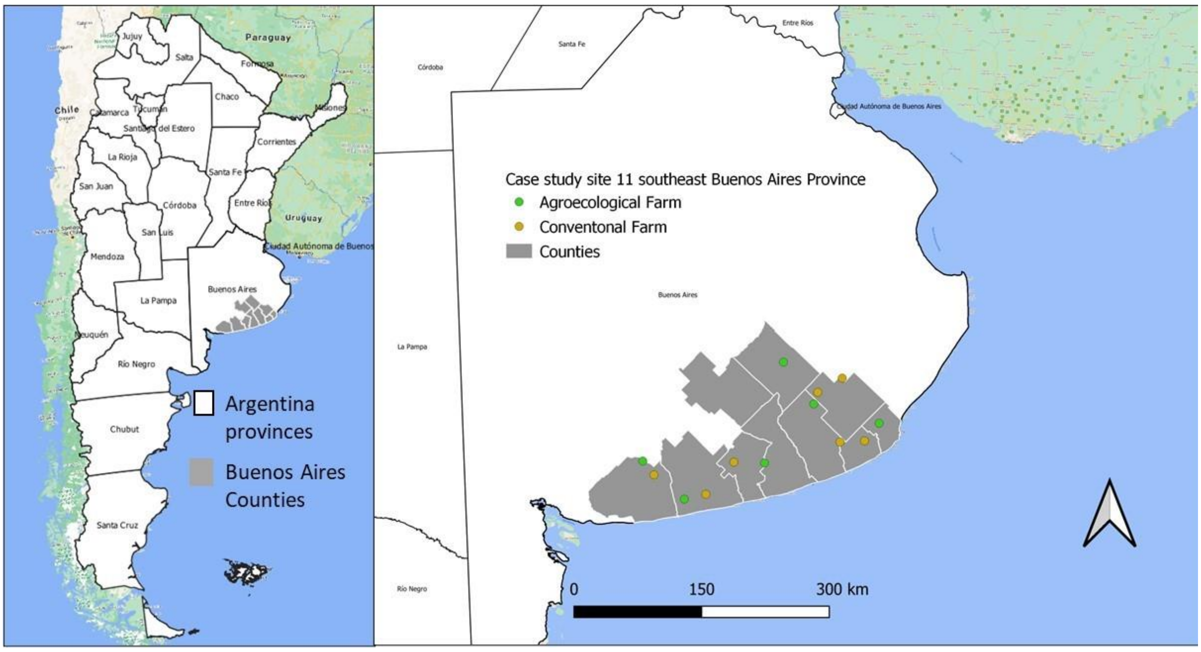


CSS 9 – Netherlands – Region of Groningen



CSS 10 – Denmark – North and Central Justland

CSS 11 – Argentina – Southeast Buenos Aires Province



Annex 2: Reasons for delay in the analysis of specific PPPs in matrices for environment, animals and humans

CIEMAT

In the frame of WP2-D2.3, CIEMAT is the partner responsible for the analyses of PPPs in surface water and indoor dust samples from all CSS.

CIEMAT has reported the PPP data related to surface water of the eleven CSS at time. Some special circumstances have produced a delay in the delivery of results corresponding with indoor dust samples:

(a) the final list of target PPPs was not provided until June, 2021 (not depending on CIEMAT),

(b) once such list was definitely defined, CIEMAT processed orders to purchase the standards needed for PPP determination. These acquisitions were indispensable for the instrumental optimization, validation steps and analysis of real samples. Unfortunately, the delivery time for most of the standards was very long due to supply problems coming from the factories (COVID-19 pandemic). This fact delayed the work of optimizing methodologies in the laboratory.

(c) To perform surface water analysis CIEMAT has validated a total of ten methods for analysing 191 PPPs in surface water samples, (eight for HPLC-MS, one for HRGC-TQMS and one for HRGC-HRMS),

(d) all indoor dust samples have not been delivered at CIEMAT yet

(e) in order to avoid the obsolescence problems associated to the HPLC 212-320 TQMS 320 Varian system available and used for water samples analyses, CIEMAT acquired in December 2021 a new UHPLC-TQMS Sciex system (Spanish budget, not coming from SPRINT project) to enhance the sensitivity and the limits of detection/quantification specially in complex matrices such as indoor dust,

Considering all mentioned above and SPRINT project requirements, it was prioritized the analysis of surface water samples (delivered at time). Indoor dust will be analysed in the new instrument and data will be reported by June 2022.

SKU

The development and validation of sufficiently sensitive methods for the analysis of 200+ PPPs is challenging because of the complex matrices (e.g. blood plasma) for which methods for the current use PPPs have not been well-established and published. The start of the method development and validation process was delayed due to the availability of the required reference standards. For the wrist bands efforts have been made to provide an efficient and cost-effective workflow for the sample pre-treatment to support the three different analytical methods needed to cover the wide range of PPPs. The time effort for aforementioned tasks was underestimated in the planning phase. Non-compliance with procedures to provide the field samples in an organised way further slowed down the work flow. Contingencies included redistribution of some of the work to other laboratories within the consortium. Because of overall limited capacity within the consortium for blood plasma a laboratory external to the consortium was commissioned for an outsourced pre-screening analysis of pooled serum samples. For clinical biomarkers efforts to outsource to clinical service laboratories were not successful due to constraints of these external parties that were incompatibility with project requirement (e.g. requirement to keep the samples in a biobank).

Taking all delays in account, we are now at a point that we have an instrument method ready, so to say: we are able to measure the PPPs on LC-MS/MS. However, can cannot start to analyse the samples because we still need to do the validation. In the case that validation is unsatisfactory, getting back to optimizing the instrument and/or sample prep method is needed. If everything goes well from where we are now (see a more detailed technical overview below) we will be ready to start measuring the CSS samples in April 2022.

WR

Table 1 provides a summary of the number of human samples received and analysed. At the time of reporting, not all samples and analyses were completed. The reason is a late establishment of the final target list of pesticides and metabolites to be included in the analysis, the long delivery time of some of the individual reference standards needed for the analysis, and the very high number of human samples to be analysed. Covid related restrictions in the laboratory also contributed to part of the backlog.

Table 1

		Samples analysed	
Human	**samples received**	**LC&GC multi**	**Glyphosate/AMPA**
Faeces	542	320	0
urine	552	0	250
urine (DPA*)	43	0	0
blood (serum)	<check paul>	**	**

* DPA = 24h/36h urine samples collected together with duplicate diet samples (add-on WP2)
** pooled plasma samples were prepared and analyses outsourced as prescreen

For human faeces, in total 320 samples were analysed for 192 out of the 206 anticipated pesticides and metabolites. With the multi-methods used, fourteen pesticides could not be analysed at levels of 10 µg/kg or lower (higher levels might be possible, but were anticipated less likely to occur and were not tested during method validation).

The 320 samples analysed originated from CH, CZ, HR, NL, and SL. The samples represented more than 50% of the samples received, but less than 50% of the CSSs. A compilation of the findings can be found in the result section of the report. For three groups: all, farmers, and neighbors&consumers. For each group findings have been split in total, conventional and organic based on the available metadata. In Table 2 the top 10 detected pesticides/metabolites are shown. Table 3 provides the top 10 highest concentrations found. The results should be considered as preliminary data. At this stage, for faeces it was decided to include all detects, also those below LOQ, and also cases where further assessment regarding correct identification is still required, in order to avoid erroneous discarding of findings at this early stage. This was done because analysis of human faeces for such a wide scope of pesticides is new (very little/no reports in literature), and the matrix-complexity highly variable, complicating data interpretation in a number of cases. It should be noted that it is expected that both the actual number of pesticides, and the detection frequencies may decrease. Also, since not all CSS have been included, the results are not yet representative for the entire SPRINT study.

Annex 3: LOD/LOQ for each matrix

Table A3-1: The limit of detection and limit of quantification of soil, water, sediment and outdoor dust samples.

	Soil		Water		Sediment		Outdoor dust	
Compound	**LOD (µg/kg dry weight)**	**LOQ (µg/kg dry weight)**	**LOD (ng/L)**	**LOQ (ng/L)**	**LOD (µg/kg dry weight)**	**LOQ (µg/kg dry weight)**	**LOD (ng/sample)**	**LOQ (ng/sample)**
Glyphosate	16.67	50	1.9	10.0		10		8
AMPA	16.67	50	1.2	10		10		8
2,4-D (free)	1.33	4	1.2	5		1		10
Acetamiprid	1.33	4	0.2	1		1		n.a.
Acetamiprid: Acetamiprid-N-desmethyl	1.33	4	1.9	5		1		10
Aclonifen	6.67	20	n.f.r.	n.f.r.		n.f.r		n.a.
Ametoctradin	1.33	4	0.4	5		1		10
Atrazine	1.33	4	0.4	5		1		10
azadirachtin	n.a.	n.a.	10.2	25		1		n.a.
Azoxystrobin	1.33	4	1.3	5		1		n.a.
Azoxystrobin-O-demethyl	6.67	20	4.6	25		1		n.a.
Bentazone	1.33	4	1.9	5		1		10
bifenthrin	0.33	1	0.2	1.3		1		n.a.
Bixafen	1.33	4	2.3	25		1		10
Bixafen desmethyl	6.67	20	n.a.	n.a.		1		10
Boscalid	1.33	4	1.6	5		1		10
Bromoxynil	2.67	8	1.4	50		1		30
captan	0.33	1	n.a.	n.a.		n.f.r		n.a.
captan THPI	3.33	10	n.f.r.	n.f.r.				n.a.
Carbendazim	1.33	4	0.6	5		1		n.a.
carfentrazone	n.a.	n.a.	3.0	25		n.f.r		10
carfentrazone-ethyl	1.33	4	1.2	5		5		n.a.
Chlorantraniliprole	1.33	4	1.7	5		5		n.a.

Chloridazon	6.67	20	3.5	5	1	n.a.
Chlorothalonil	1.33	4	0.10	5		10
Chlorothalonil 4-hydroxy	1.33	4	n.a.	n.a.	1	n.a.
Chlorotoluron	3.33	10	3.8	5	1	n.a.
Chlorpropham	1.33	4	0.1	5		n.a.
Chlorpyrifos	3.33	10	0.7	6		n.a.
Chlorpyrifos/-methyl: TCPy	1.33	4	2.8	5	2.5	n.a.
Chlorpyrifos-methyl	1.33	4	0.1	5		n.a.
chlorpyrifos-methyl -desmethyl	1.33	4	n.f.r.	n.f.r.	1	n.a.
Clomazone	0.33	1	0.9	5	1	n.a.
Clothianidin	0.33	1	1.5	5	1	10
Cyantraniliprole	0.33	1	2.3	5	1	10
cyflufenamide	0.33	1	1.5	5	1	n.a.
Cyfluthrin (beta-cyfluthrin)	0.33	1	0.8	2.1		10.0
cymoxanil	0.33	1	1.7	5	1	n.a.
Cypermethrin	3.33	10	0.8	5		30
Cyproconazole	n.a.	n.a.	0.4	5	2.5	10
Cyprodinil	3.33	10	1.0	5	5	n.a.
Cyprodinil metabolite CGA304075	0.33	1	2.3	5	1	n.a.
DDD o,p'	1.33	4	0.02	0.5		10
DDD p,p'	1.33	4	0.01	0.5		n.a.
DDE p,p'	6.67	20	0.01	0.5		60
DDE, o,p'	1.33	4	0.01	0.5		20
DDT o,p'	1.33	4	0.01	0.5		10
DDT p,p'	1.33	4	0.02	0.5		20
Deltamethrin	1.33	4	0.6	5		n.a.
Dicamba	6.67	20	6.4	25	2.5	n.a.
Dicloran	1.33	4	0.8	5		n.a.
Dieldrin	1.33	4	0.01	0.5		n.a.

Difenoconazole	1.33	4	0.3	5	1	10
Diflufenican	0.33	1	0.7	5	1	n.a.
Diflufenican AE-B107137	6.67	20	3.0	25	5	n.a.
Dimethenamid (P)	6.67	20	0.6	25	1	10
Dimethoate	1.33	4	2.0	5	1	10
Dimethomorph	6.67	20	0.5	5	1	n.a.
Dimoxystrobin	1.33	4	1.0	25	1	n.a.
Dinotefuran	1.33	4	3.2	5	1	10
Diuron	1.33	4	1.5	5	1	10
emamectin	0.33	1	0.2	5	1	10
Epoxiconazole	1.33	4	0.4	5	2.5	n.a.
Esfenvalerate	1.33	4	0.2	3		n.a.
Ethofumesate	1.33	4	1.9	5	1	n.a.
Famoxadone	6.67	20	n.f.r.	n.f.r.	1	10
fenbuconazole	1.33	4	0.9	5	1	10
fenhexamid	1.33	4	2.3	5	1	n.a.
Fenoxycarb	1.33	4	1.2	5	1	n.a.
Fenpropidin	1.33	4	0.4	5	1	n.a.
Fenpropimorph	1.33	4	0.6	5	1	n.a.
Fenvalerate	n.a.	n.a.	0.3	5		n.a.
Fipronil	1.33	4	0.3	5	1	n.a.
Fipronil sulfone	1.33	4	0.1	5	1	n.a.
flazasulfuron	1.33	4	0.8	5	1	10
Flonicamid	1.33	4	3.8	5	1	n.a.
Florasulam	1.33	4	3.1	5	1	10
Fluazifop (P) (only free)	16.7	50	2.3	5	1	10
Fluazinam	1.33	4	0.1	5	1	n.a.
Fludioxonil	1.33	4	1.2	5	1	10
Flufenacet	1.33	4	0.8	5	1	20
flumioxazine	n.a.	n.a.	2.6	5	n.f.r	10

Fluopicolide	n.a.	n.a.	1.0	5	1	n.a.
Fluopyram	1.33	4	0.6	5	1	n.a.
Fluopyram benzamide	n.a.	n.a.	1.5	5	1	n.a.
Fluoxastrobin	0.33	1	2.3	5	1	n.a.
Flupyradifurone	1.33	4	2.5	5	1	n.a.
Fluroxypyr (only free)	1.33	4	3.0	50	1	n.a.
Flusilazole	0.33	1	0.4	5	1	n.a.
Flutolanil	6.67	20	1.4	5	1	20
Fluxapyroxad	1.33	4	1.8	5	1	10
folpet	n.a.	n.a.	n.a.	n.a.	n.f.r	n.a.
folpet PHI	0.33	1	n.f.r.	n.f.r.		10
Foramsulfuron	6.67	20	0.6	5	1	10
Haloxyfop-P (Haloxyfop-R) (free)	0.33	1	1.6	5	10	n.a.
Hexachlorobenzene	1.33	4	0.001	0.5		n.a.
Imazalil	1.33	4	2.0	5	1	n.a.
Imidacloprid	1.33	4	0.7	5	1	n.a.
Imidacloprid (5-hydroxy)	6.67	20	14.6	50	1	n.a.
Imidacloprid (desnitro-)	6.67	20	0.9	5	2.5	10
Indoxacarb	1.33	4	1.6	5	2.5	10
iprovalicarb	1.33	4	0.1	5	1	20
Isoproturon	1.33	4	2.6	5	1	n.a.
Isoxaben	1.33	4	0.3	5	1	n.a.
Isoxaflutole	1.33	4	2.0	5	1	n.a.
Kresoxim-methyl	1.33	4	1.4	5	2.5	10
lambda-Cyhalothrin	0.33	1	0.7	5		10
Lenacil	1.33	4	3.5	5	1	n.a.
Lindane (gamma-HCH)	3.33	10	0.01	0.5		n.a.
Linuron	1.33	4	0.9	50	1	n.a.
Mandipropamid	1.33	4	1.1	5	1	n.a.

MCPA	1.33	4	1.4	5	1	n.a.
Mecoprop (P)	1.33	4	1.4	5	1	n.a.
meptyldinocap	n.a.	n.a.	n.a.	n.a.	1	10
meptyldinocap phenol	1.33	4	0.2	5	1	20
Metalaxyl (M)	1.33	4	0.4	5	1	n.a.
Metalaxyl Metabolite CGA 62826	1.33	4	1.6	5	1	n.a.
Metamitron	1.33	4	2.2	5	1	n.a.
Metamitron-desamino	1.33	4	1.7	5	1	10
Metazachlor	1.33	4	0.4	5	1	n.a.
Metconazole	1.33	4	0.4	5	2.5	n.a.
Methabenzthiazuron	1.33	4	0.7	25	1	n.a.
Methiocarb	1.33	4	1.1	5	1	n.a.
Methiocarb sulfon	1.33	4	1.9	5	1	30
Methiocarb sulfoxide	1.33	4	0.4	5	1	10
methoxyfenozide	1.33	4	0.2	5	1	n.a.
Metobromuron	1.33	4	2.9	5	1	n.a.
Metolachlor (S)	1.33	4	1.0	25	1	n.a.
Metolachlor ethane sulfonic acid	1.33	4	1.8	5	1	10
Metolachlor oxanilic acid	1.33	4	2.6	5	1	n.a.
Metrafenone	1.33	4	1.0	5	1	10
Metribuzin	1.33	4	1.1	5	1	n.a.
Metsulfuron-methyl	1.33	4	0.4	5	1	10
Myclobutanil	6.67	20	0.7	5	1	n.a.
Napropamide (M)	1.33	4	0.4	5	1	n.a.
Nicosulfuron	1.33	4	0.5	5	1	n.a.
oryzalin	n.a.	n.a.	3.3	5	2.5	n.a.
Oxadixyl	6.67	20	3.3	25	1	n.a.
Oxyfluorfen	6.67	20	3.8	25	1	n.a.

penconazole	6.67	20	0.5	5	1	10
Pencycuron	1.33	4	0.2	5	1	n.a.
Pendimethalin	1.33	4	0.9	5	1	n.a.
penoxulam	1.33	4	0.7	5	1	n.a.
Permethrin	0.33	1	0.8	6		10
Phosmet	1.33	4	1.6	5	1	30
Phosmet oxon	1.33	4	0.7	5	1	n.a.
Phoxim	1.33	4	1.1	5	1	30
Piperonyl butoxide	1.33	4	0.2	5	1	n.a.
Pirimicarb	1.33	4	0.7	5	1	n.a.
Pirimicarb desmethyl-	1.33	4	0.5	5	1	n.a.
Pirimiphos-methyl	1.33	4	0.2	5	1	n.a.
Pirimiphos-methyl metabolite DEAMPY (2-diethylamino-6-methyl pyrimidin-4-ol)	6.67	20	0.7	25	1	n.a.
Pirimiphos-methyl-desmethyl	n.a.	n.a.	n.a.	n.a.	1	10
Pirimiphos-methyl-N-desethyl	1.33	4	1.2	5		n.a.
Prochloraz	1.33	4	0.1	5	1	10
Prochloraz BTS 44595	6.67	20	2.5	25	n.f.r	n.a.
Prochloraz BTS 44596	1.33	4	1.2	5	1	n.a.
Prometryn	1.33	4	0.1	5	1	60
Propamocarb (hydrochloride)	6.67	20	1.2	5	qualitative	60
Propaquizafop	1.33	4	1.3	5	1	n.a.
Propiconazole	1.33	4	0.9	5	5	n.a.
Propoxur	1.33	4	1.0	5	1	10
Propyzamide	6.67	20	1.4	5	1	10
Prosulfocarb	1.33	4	0.5	5	1	10
Prothioconazole	n.a.	n.a.	0.6	5	n.a.	n.a.
Prothioconazole desthio	1.33	4	0.3	5	1	n.a.
Pymetrozine	1.33	4	2.3	5	1	n.a.

Pyraclostrobin	1.33	4	1.5	5	1	n.a.
Pyraflufen-ethyl	1.33	4	0.9	5	1	n.a.
Pyrethrin I	6.67	20	0.4	5	2.5	n.a.
Pyrethrin II	6.67	20	n.a.	n.a.	1	n.a.
Pyrimethanil	1.33	4	1.3	5	1	n.a.
Pyrimethanil_M605F002	n.a.	n.a.	2.9	10	1	n.a.
Pyriofenone	1.33	4	0.2	5	1	n.a.
Pyriproxyfen	1.33	4	0.5	5	1	n.a.
Pyroxsulam	1.33	4	0.6	5	1	n.a.
Quinoxyfen	1.33	4	0.5	5	1	10
Quizalofop (P) free acid	n.a.	n.a.	1.7	5	2.5	n.a.
Rimsulfuron	6.67	20	1.1	5	1	10
Sedaxane	6.67	20	0.4	5	1	n.a.
Spinetoram	1.33	4	0.2	5	1	10
Spinosyn A	1.33	4	0.1	5	5	n.a.
Spinosyn D	1.33	4	1.9	5	5	n.a.
Spirotetramat	1.33	4	n.a.	n.a.	1	n.a.
Spirotetramat-enol	1.33	4	3.2	25	1	30
Spirotetramat-enol-glucoside	6.67	20	n.a.	n.a.	1	n.a.
Spirotetramat-keto-hydroxy	1.33	4	3.3	5	1	n.a.
Spirotetramat-mono-hydroxy	1.33	4	n.a.	n.a.	1	n.a.
Spiroxamine	1.33	4	0.1	5	1	n.a.
tau-Fluvalinate	0.33	1	0.5	5		n.a.
Tebuconazole	1.33	4	0.4	5	2.5	n.a.
Terbuthylazine	1.33	4	0.1	5	1	n.a.
Terbuthylazine-desethyl	1.33	4	1.1	5	1	n.a.
Terbutryn	1.33	4	0.3	25	1	n.a.
Tetraconazole	1.33	4	1.0	5	1	n.a.
Tetramethrin	0.33	1	0.7	5		n.a.
Thiabendazole	1.33	4	2.4	5	2.5	60

Thiacloprid	1.33	4	1.6	5	1	n.a.
Thiamethoxam	6.67	20	2.6	5	1	n.a.
Thiencarbazone-methyl	6.67	20	1.5	25	1	n.a.
Thiophanate-methyl	6.67	20	3.8	25	1	n.a.
Tolylfluanid	6.67	20	1.6	5	n.f.r	n.a.
Tolylfluanid metabolite DMST (dimethylaminosulfotoluidide)	1.33	4	1.6	5	1	n.a.
Tri-allate	6.67	20	1.8	5	1	10
Tricyclazole	1.33	4	1.2	5	1	10
Trifloxystrobin	1.33	4	0.3	5	1	10
Trifloxystrobin metabolite CGA 321113	6.67	20	0.4	5	1	n.a.
zoxamid	1.33	4	0.7	5	1	10

n.a.= not analysed.

Table A3-2: The limit of detection and limit of quantification of human blood and faeces samples.

	Blood		Faeces	
Compound	**LOD (ng/mL serum)**	**LOQ (ng/mL serum)**	**LOD (µg/kg)**	**LOQ (µg/kg)**
Glyphosate	0.1	0.1		1
AMPA	0.1	0.1		1
2,4-D (free)		0.5		n.a.
Acetamiprid		0.01		n.f.r
Acetamiprid: Acetamiprid-N-desmethyl		n.a.		1
Aclonifen		1		1
Ametoctradin		0.05		n.f.r
Atrazine		0.05		1
azadirachtin		0.5		5
Azoxystrobin		0.05		1
Azoxystrobin-O-demethyl		n.a.		n.a.
Bentazone		n.a.		1
bifenthrin		0.1		1.0
Bixafen		0.01		5
Bixafen desmethyl		n.a.		2.5
Boscalid		0.5		n.a.
Bromoxynil		5		n.a.
captan		0.5		1
captan THPI		n.a.		n.f.r
Carbendazim		0.5		n.f.r
carfentrazone		n.a.		1
carfentrazone-ethyl		n.a.		n.f.r
Chlorantraniliprole		0.5		n.a.
Chloridazon		n.a.		1
Chlorothalonil		0.5		1
Chlorothalonil 4-hydroxy		n.a.		n.a.
Chlorotoluron		n.a.		n.a.
Chlorpropham		n.a.		1
Chlorpyrifos		0.5		n.a.
Chlorpyrifos/-methyl: TCPy		n.a.		1
Chlorpyrifos-methyl		0.05		1
chlorpyrifos-methyl -desmethyl		n.a.		3
Clomazone		0.05		2.5
Clothianidin		0.05		1
Cyantraniliprole		0.01		n.a.
cyflufenamide		0.1		1
Cyfluthrin (beta-cyfluthrin)		0.1		n.a.
cymoxanil		n.a.		2.5
Cypermethrin		0.1		2.5
Cyproconazole		0.05		2.5
Cyprodinil		0.1		n.a.
Cyprodinil metabolite CGA304075		n.a.		n.a.

DDD o,p'	n.a.	n.a.
DDD p,p'	n.a.	n.a.
DDE p,p'	0.5	n.a.
DDE, o,p'	0.1	n.a.
DDT o,p'	0.5	n.a.
DDT p,p'	0.5	n.f.r
Deltamethrin	0.1	n.a.
Dicamba	n.a.	n.a.
Dicloran	0.1	1
Dieldrin	0.1	1
Difenoconazole	0.5	10
Diflufenican	0.05	1
Diflufenican AE-B107137	n.a.	1
Dimethenamid (P)	n.a.	1
Dimethoate	0.5	1
Dimethomorph	0.05	1
Dimoxystrobin	0.1	2.5
Dinotefuran	0.05	1
Diuron	0.01	2.5
emamectin	0.05	n.a.
Epoxiconazole	n.a.	1
Esfenvalerate	1	1
Ethofumesate	0.05	2.5
Famoxadone	0.1	2.5
fenbuconazole	0.5	1
fenhexamid	0.5	1
Fenoxycarb	0.05	1
Fenpropidin	0.05	n.a.
Fenpropimorph	n.a.	1
Fenvalerate	1	1
Fipronil	0.05	1
Fipronil sulfone	0.05	1
flazasulfuron	0.05	1
Flonicamid	0.5	1
Florasulam	0.05	1
Fluazifop (P) (only free)	n.a.	1
Fluazinam	0.5	1
Fludioxonil	0.5	n.f.r
Flufenacet	0.1	1
flumioxazine	0.5	1
Fluopicolide	0.1	1
Fluopyram	0.1	1
Fluopyram benzamide	n.a.	1
Fluoxastrobin	0.1	1
Flupyradifurone	n.a.	1

Fluroxypyr (only free)	n.a.	1
Flusilazole	0.05	1
Flutolanil	n.a.	n.a.
Fluxapyroxad	0.05	n.a.
folpet	5	1
folpet PHI	n.a.	5
Foramsulfuron	1	n.a.
Haloxyfop-P (Haloxyfop-R) (free)	n.a.	2.5
Hexachlorobenzene	0.1	1
Imazalil	0.1	2.5
Imidacloprid	0.01	2.5
Imidacloprid (5-hydroxy)	n.a.	2.5
Imidacloprid (desnitro-)	n.a.	2.5
Indoxacarb	0.1	5
iprovalicarb	0.1	1
Isoproturon	0.05	1
Isoxaben	0.05	n.f.r
Isoxaflutole	n.a.	n.a.
Kresoxim-methyl	n.a.	2.5
lambda-Cyhalothrin	0.1	n.a.
Lenacil	n.a.	1
Lindane (gamma-HCH)	0.05	1
Linuron	n.a.	1
Mandipropamid	0.05	1
MCPA	n.a.	1
Mecoprop (P)	1	1
meptyldinocap	5	1
meptyldinocap phenol (CAS 3687-22-7)	0.05	5
Metalaxyl (M)	n.a.	n.f.r
Metalaxyl Metabolite CGA 62826	n.a.	2.5
Metamitron	0.05	1
Metamitron-desamino	n.a.	2.5
Metazachlor	n.a.	1
Metconazole	0.05	1
Methabenzthiazuron	n.a.	1
Methiocarb	0.5	1
Methiocarb sulfon	0.1	1
Methiocarb sulfoxide	0.05	1
methoxyfenozide	0.05	1
Metobromuron	0.05	1
Metolachlor (S)	n.a.	1
Metolachlor ethane sulfonic acid	n.a.	1
Metolachlor oxanilic acid	n.a.	10
Metrafenone	0.05	1
Metribuzin	0.25	2.5

Metsulfuron-methyl	0.05	1
Myclobutanil	0.5	1
Napropamide (M)	0.1	n.a.
Nicosulfuron	0.05	1
oryzalin	0.5	10
Oxadixyl	n.a.	5
Oxyfluorfen	0.5	1
penconazole	0.5	1
Pencycuron	n.a.	2.5
Pendimethalin	0.05	n.a.
penoxulam	n.a.	1
Permethrin	n.a.	1
Phosmet	0.5	1
Phosmet oxon	0.05	2.5
Phoxim	0.1	1
Piperonyl butoxide	0.5	1
Pirimicarb	0.05	1
Pirimicarb desmethyl-	n.a.	2.5
Pirimiphos-methyl	0.05	n.a.
Pirimiphos-methyl metabolite DEAMPY (2-diethylamino-6-methyl pyrimidin-4-ol)	n.a.	1
Pirimiphos-methyl-desmethyl	n.a.	1
Pirimiphos-methyl-N-desethyl	n.a.	n.f.r
Prochloraz	0.5	1
Prochloraz BTS 44595	n.a.	1
Prochloraz BTS 44596	n.a.	1
Prometryn	n.a.	1
Propamocarb (hydrochloride)	0.05	1
Propaquizafop	0.1	1
Propiconazole	0.05	1
Propoxur	0.05	1
Propyzamide	0.5	n.f.r
Prosulfocarb	0.5	10
Prothioconazole	1	1
Prothioconazole desthio	0.05	1
Pymetrozine	0.05	1
Pyraclostrobin	0.05	1
Pyraflufen-ethyl	n.a.	2.5
Pyrethrin I	n.a.	2.5
Pyrethrin II	n.a.	2.5
Pyrimethanil	0.1	1
Pyrimethanil_M605F002	n.a.	1
Pyriofenone	n.a.	1
Pyriproxyfen	0.05	1
Pyroxsulam	n.a.	10
Quinoxyfen	0.1	1

Quizalofop (P) free acid	n.a.	5
Rimsulfuron	n.a.	5
Sedaxane	n.a.	5
Spinetoram	0.05/0.05	5
Spinosyn A	0.05	1
Spinosyn D	0.1	1
Spirotetramat	1	1
Spirotetramat-enol	0.05	2.5
Spirotetramat-enol-glucoside	0.05	1
Spirotetramat-keto-hydroxy	0.5	1
Spirotetramat-mono-hydroxy	0.1	
Spiroxamine	n.a.	2.5
tau-Fluvalinate	0.05	1
Tebuconazole	0.05	1
Terbuthylazine	n.a.	1
Terbuthylazine-desethyl	n.a.	1
Terbutryn	n.a.	
Tetraconazole	n.a.	1
Tetramethrin	n.a.	1
Thiabendazole	0.05	1
Thiacloprid	0.01	1
Thiamethoxam	0.01	1
Thiencarbazone-methyl	0.5	n.f.r
Thiophanate-methyl	0.1	n.f.r
Tolylfluanid	1	1
Tolylfluanid metabolite DMST (dimethylaminosulfotoluidide)	0.05	1
Tri-allate	0.5	1
Tricyclazole	n.a.	1
Trifloxystrobin	0.1	1
Trifloxystrobin metabolite CGA 321113	n.a.	n.a.
zoxamid	0.25	n.a.