



EU PROFICIENCY TEST
EUPT-SRM16, 2021

**Residues of Pesticides
Requiring Single Residue Methods
Test Item: Hulled Sesame Seeds (Milled)**

Preliminary Report

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General Remarks

- All assigned values (AVs), robust standard deviations (CV*s) and z-scores presented in the following are **preliminary**. These figures may slightly shift in the EUPT-SRM16 final report, which will be drafted following the evaluation of the results by the EUPT-Scientific Committee and the joint EURL/NRL-Workshop.
- All labs are kindly requested to check their results carefully and to **report any errors**. However, **only transcription errors by the organizers can be considered at this stage**.
- In case of poor performance, i.e. questionable or unacceptable results (abs. z-score > 2 incl. false negatives) or false positive results, **labs are requested to give feedback to the organizers by 25 June, 2021**. Here you can briefly state the possible reasons for the poor performance, the follow-up actions undertaken, and any new results generated, in the PT-material was re-analysed by an improved procedure. **For reporting, please use the excel-file attached to the E-mail on the preliminary protocol.**

Background

The proficiency test EUPT-SRM16 was conducted using milled hulled sesame seeds. In total 42.1 kg commercially available sesame seeds were used to prepare the PT test material. 25 kg were provided by a laboratory in Switzerland; ~ 8 kg were provided by a laboratory in Germany and ~10 kg were purchased from a local supermarket. The mixed material contained incurred levels of 2CE, bromide, chlorate and nicotine as well as traces of phosphonic acid and trimesium. For spiking, 11 compounds (see **Table 1**) were dissolved in 1 L of a solvent mixture consisting of water and acetone (1:9) and evenly distributed among four 1 kg portions of sesame seeds (4 kg of material in total). The spiked material was shaken until the solvent was evaporated and then left standing over night for the seeds to dry-out completely. The spiked seeds were then incorporated to the rest of the material and thoroughly mixed over 5 hours by a drum hoop mixer. The seeds were then milled into a fine powder in 150 g portions with the help of dry ice (sample: dry ice ratio 2:1) and then sieved and mixed well in its entirety prior to its portioning into pre-numbered bottles. An overview of the pesticides spiked to the test material is shown in **Table 1**.

Table 1: Analytes present in the SRM16 test material and their application history

Analytes	Residues contained in seeds used	Spiked in Lab	Compounds applied in lab
2-CE	Yes	No	–
Bromide	Yes	Yes	Potassium-bromide
Chlorate	Yes	Yes	Sodium-chlorate
Diquat	No	Yes	Diquat-dibromide-monohydrate
Ethephon	No	Yes	Ethepron
Glufosinate	No	Yes	Glufosinate-ammonium
Glyphosate	No	Yes	Glyphosate
Matrine	No	Yes	Matrine
Nicotine	Yes	Yes	Nicotine
Paraquat	No	Yes	Paraquat-dichloride-hydrate
Phosphonic acid	Yes (traces)	Yes	Phosphonic acid
Trimesium	Yes (traces)	Yes	Trimethylsulfonium-iodide

Testing and shipment of EUPT-SRM16 Material

Aproximately 180 g of the test item were bottled, deeply frozen at -20 °C and packed into insulated boxes together with gel packs. The boxes were stored in the freezer until they were picked up for shipment to the participating laboratories on 22 March, 2021.

Using an online submission tool the participants were able to submit their results by 27 April, 2021¹. The requested methodology information for tentatively false negative results was to be submitted by 6 May, 2021.

10 bottles of the test item were selected randomly and tested for homogeneity. Furthermore, the stability of the pesticides within the test material was checked during a period encompassing the EUPT duration.

Result Evaluation

In total, all 103 OfLs (incl. NRLs) from EU and EFTA countries as well as 1 laboratory from an EU candidate countires and 11² governmental or commercial laboratories from third countries analysed at least one compound and submitted their result. Futhermore, 12 EU commercial labs willing to be subcontracted by EU Member States for the analysis of ethylene oxide related residues in sesame seed imports, participated in the current PT, too. For establishing the assigned values of ethylen oxide (EO), EO (sum) and 2-chloreethanol (2-CE), all submitted results are taken into account. For all other analytes, the assigned values are based on results submitted by OfLs from EU and EFTA countries only.

Evaluation of results for 2-CE and EO (sum):

The various labs employed different analytical approaches as follows:

- a) EO (sum) only
- b) EO (sum) and EO (separately)
- c) 2CE only
- d) 2CE and EO (separately)

As the test Item did not contain any measurable residues of EO (as such), the organizers assumed that any results of EO (sum) or 2CE should be interconvertible by applying the molecular weight factor. Part of the labs proceeded with calculation on their own while others did not. In order to obtain a more uniform set of data the organizers decided to calculate EO (sum) results to 2CE (16 cases) and 2CE results to EO (sum) (5 cases), so far this was not done by the participants.

Irrespective on whether the abovementioned back-calculated levels were included in the population or not, the distribution of the participants' data was quite broad both for 2CE and EO (sum). The inexperience of many labs with the analysis of 2CE and EO(sum) was surely one of the reasons, but differences in the methods applied also had an effect. For example, a number of laboratories did not add water to the extraction solvent (acetonitrile) and this resulted insufficient soaking of the material and therefore to poor extraction yields, even at prolonged extraction times. These laboratories were contacted telephonically to confirm their their procedure. In addition, the organizers confirmed the poor extractability of 2CE in absence of water by own experiments. Excluding this sub-population of results, markedly narrowed the result distribution and the robust standard deviation. Finally, it was decided to calculate the preliminary assigned value based on the results of 22 laboratories that had participated in the ad-hoc EO-PT held in December 2020 as these laboratories have dealt with this topic more intensively both during the PT and afterwards when applying their method in routine work. None of these labs had extracted the material without water addition.

¹ The submission deadline were shifted to 4 May for 4 laboratories and to 14 May for two laboratories from 3rd countries due to delays at customs and the materials arrived those laboratories up to three weeks later. Two other laboratories from 3rd countires missed the registration deadline and were not be able to integrated in the webtool. They submitted their data via excel-sheets provided by the organizers.

² One additional laboratory based in 3rd country received the test material on 12 May, so that its results could be considered only in the final report, if they could be submitted by releasing of this preliminary report.

In the Ad-hoc PT there a small bias was observed between the results obtained by the German standard method (xxx) and methods employing solvent extraction (QuEChERS, QuOil, Bononi et. al), with the latter achieving tentatively higher results. But as the bias is rather small and as the both populations were more or less balanced within the 22-labs sub-population, and also since the CV* was acceptable and the uncertainty of the AV well within the acceptable limits, it was decided to disregard this aspect at this stage.

A summary of the preliminary assigned values and CV* is shown in **Table 2**.

False positives (FPs): Among the results received from EU/EFTA-OfLs, 6 results submitted by 5 laboratories (2x Ethylene oxide (EO), and one each for AMPA, chlormequat, fosetyl and MPP) were **preliminarily judged as FPs**. One participant reported a result for AMPA, but as it was lower than lab's reporting limit and the MRRL, it was not judged as a FP. Among the laboratories not belonging to the EU/EFTA OfL-network one lab reported a numerical result for EO and one for MPP. Both were judged as false positive results. All false positive results are listed in

Table 4.

False negatives (FNs): 11 EU/EFTA-OfLs reported in 13 cases results that were **preliminarily judged as FNs**. These concerned compounds that were present in the test item at relevant levels and were analysed by the labs without reporting any numeric results. In all cases, the assigned values are higher than the laboratories' RL, therefore, they were judged as FNs. For these results z-scores were calculated using the corresponding MRRL in the target pesticide list or the RL, if this was lower. The FN results concerned the following analytes: Phosphonic acid (3x), bromide (2x), glyphosate (2x), tri-mesum (2x), 2-CE (1x), EO (sum) (1x), ethephon (1x), and matrine (1x).

2 commercial laboratories and 2 governmental laboratories from 3rd countries received in 8 cases false negative results, concerning the following compounds: Ethepron (2x), phosphonic acid (2x), paraquat (2x), bromide (1x), and diquat (1x).

All submitted results of pesticides contained in the test material at relevant levels are shown in **Table 3**. **Table 3** also contain results of **participating laboratories from EU candidate countries and countries outside the EU as well as commercial laboratories**. In all these cases the z-scores were calculated using the same assigned values as for the EU/EFTA-OfLs.

Feedback on Poor Performance:

Laboratories having obtained poor results (i.e. abs. z-scores >2 (incl. false negatives) or false positives), are urged to initiate actions for tracing back the sources of errors.

A brief summary of these actions should be reported to the EURL-SRM by 25 June, 2021.

Please use the Excel-file attached to the E-mail with the preliminary protocol.

Table 2: Preliminary evaluation of EUPT-SRM16 results in summary**Mandatory Compounds:**

Analyte	Bromide	Ethephon	Glufosinate	Glyphosate	Phosphonic acid
MRRL [mg/kg]	2	0.04	0.02	0.1	0.1
No. of numerical results	54	75	72	86	62
No. of FNs	2	1	0	2	3
Outliers	1	3	4	1	0
Prelim. Assigned Value [mg/kg]	21.3	0.228	0.216	0.510	0.676
CV*	20.7%	21.1%	17.1%	18.5%	24.3%
Result population used for calculation	OfLs of EU/EFTA countries				

Optional Compounds:

Analyte		2-Chloro-ethanol	Ethylene Oxide (sum)	Chlorate	Diquat	Matrine	Nicotine	Paraquat	Trimesium
MRRL [mg/kg]		0.05	0.05	0.04	0.04	0.01	0.01	0.04	0.01
	All	34 + 16*	45+ 5*	57	33	33	36	30	22
No. of numerical results	Used to calc. AV and CV*	22**	22**						
No. of FNs		1	1	0	0	1	0	0	2
Outliers		1	2	0	2	3	0	0	1
Prelim. Assigned Value [mg/kg]		4.66	2.55	1.03	0.244	0.124	0.255	0.264	0.073
CV*		27.3%	27.7%	20.7%	24.7%	26.5%	27.5%	25.0%	14.8%
Result population used for calculation		**	**	OfLs of EU/EFTA countries					

*: Results calculated by the organisers and added to the population.

**: Results from 22 laboratories having participated in ad-hoc EO PT held in December 2020, regardless of whether they are the OfLs of EU/EFTA countries or not

Table 3: Results reported by the participants for 5 compulsory and 8 optional analytes present in EUPT-SRM16

Labs based in countries outside the EU/EFTA zone as well as commercial labs based in EU, but only entailing EO in their official scope are listed at the bottom of the table.

Table Legend:

- Compulsory analytes are written in blue; optional compounds in green:
- FN: Result preliminarily judged as a false negative (i.e. the analyte was present in the test sample at a relevant concentration with no quantitative result being reported by the lab).
- (^o): Preliminary outliers (not involved in the establishment of prAVs).
- (^{cal}): value calculated by the organizer and added to the population
- prAAZ: preliminary average of absolute z-scores of both mandatory and optional analytes for more than 4 results. prAAZ-values >1.2 are highlighted in bold as they indicate that the average absolute bias is >30%. In the case of EO (sum) and 2CE only one z-score was used for AAZ calculation where the two results are interconnected via a MW-factor.
- Cat.: Categorization of labs based on scope. Cat A was assigned to labs that have analysed and correctly found 4 out of the 5 compulsory analytes present in the sample and have analysed at least 9 out of 10 compulsory analytes listed in the Target Pesticides List and have not reported any false positive results within the compulsory analytes

Lab code	Cat	Name	AV [mg/kg]	CV* %	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
3 A		Bromide	21.3	20.7%	18.0	-0.6	0.8
		Ethephon	0.228	21.1%	0.196	-0.6	
		Glufosinate	0.216	17.1%	0.177	-0.7	
		Glyphosate	0.510	18.5%	0.488	-0.2	
		Phosphonic Acid	0.676	24.3%	0.487	-1.1	
		Matrine	0.124	26.5%	0.0790	-1.5	
4 A		Ethephon	0.228	21.1%	0.174	-1.0	0.5
		Glufosinate	0.216	17.1%	0.178	-0.7	
		Glyphosate	0.510	18.5%	0.545	0.3	
		Phosphonic Acid	0.676	24.3%	0.722	0.3	
		Chlorate	1.03	20.7%	1.12	0.3	
		Diquat	0.244	24.7%	0.231	-0.2	
5 B		Bromide	21.3	20.7%	19.89	-0.3	0.5
		Ethephon	0.228	21.1%	0.276	0.8	
		Glufosinate	0.216	17.1%	0.237	0.4	
		Glyphosate	0.510	18.5%	0.533	0.2	
		Phosphonic Acid	0.676	24.3%	0.771	0.6	
6 A		Bromide	21.3	20.7%	19.6	-0.3	0.3
		Ethephon	0.228	21.1%	0.232	0.1	
		Glufosinate	0.216	17.1%	0.206	-0.2	
		Glyphosate	0.510	18.5%	0.488	-0.2	
		Phosphonic Acid	0.676	24.3%	0.671	0.0	
		2-CE	4.66	27.3%	5.30	0.6	
		EO (sum)	2.55	27.7%	2.90	0.6	
		Chlorate	1.03	20.7%	1.22	0.7	
		Nicotine	0.255	27.5%	0.280	0.4	
		Trimesium	0.073	14.8%	0.0825	0.5	
7 B		Ethephon	0.228	21.1%	2.56^(o)	40.9	2.2
		Glufosinate	0.216	17.1%	0.672^(o)	8.4	
		Glyphosate	0.510	18.5%	0.219	-2.3	
		Phosphonic Acid	0.676	24.3%	0.705	0.2	
		2-CE	4.66	27.3%	5.61^(cal)	0.8	

Lab code	Cat	Name	AV [mg/kg]	CV* %	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		EO (sum)	2.55	27.7%	3.07	0.8	
		Chlorate	1.03	20.7%	1.26	0.9	
		Matrine	0.124	26.5%	0.0782	-1.5	
8 A		Bromide	21.3	20.7%	31.4	1.9	2.1
		Ethephon	0.228	21.1%	0.079	-2.6	
		Glufosinate	0.216	17.1%	0.26	0.8	
		Glyphosate	0.510	18.5%	0.88	2.9	
		Phosphonic Acid	0.676	24.3%	0.92	1.4	
		Chlorate	1.03	20.7%	1.2	0.7	
9 B		Diquat	0.244	24.7%	0.47	3.7	
		Matrine	0.124	26.5%	0.096	-0.9	
		Nicotine	0.255	27.5%	0.12	-2.1	
		Trimesium	0.073	14.8%	FN	-3.5	
		Chlorate	1.03	20.7%	0.76	-1.1	n.c.
		EO (sum)	2.55	27.7%	2.71	0.3	
10 A		Bromide	21.3	20.7%	15.4	-1.1	0.5
		Ethephon	0.228	21.1%	0.217	-0.2	
		Glufosinate	0.216	17.1%	0.185	-0.6	
		Glyphosate	0.510	18.5%	0.528	0.1	
		Phosphonic Acid	0.676	24.3%	0.791	0.7	
		2-CE	4.66	27.3%	4.94	0.2	
		EO (sum)	2.55	27.7%	2.71	0.3	
		Chlorate	1.03	20.7%	0.998	-0.1	
11 B		Diquat	0.244	24.7%	0.298	0.9	
		Paraquat	0.264	25.0%	0.296	0.5	
		Bromide	21.3	20.7%	24.1	0.5	0.6
		Ethephon	0.228	21.1%	0.232	0.1	
		Glufosinate	0.216	17.1%	0.222	0.1	
12 B		Glyphosate	0.510	18.5%	0.452	-0.5	
		Nicotine	0.255	27.5%	0.14	-1.8	
13 A		Ethephon	0.228	21.1%	0.192	-0.6	n.c.
		Bromide	21.3	20.7%	0.042^(o)	-4.0	1.4
		Ethephon	0.228	21.1%	0.219	-0.2	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Glufosinate	0.216	17.1%	0.180	-0.7	
		Glyphosate	0.510	18.5%	0.745	1.8	
		Phosphonic Acid	0.676	24.3%	0.923	1.5	
		Chlorate	1.03	20.7%	1.265	0.9	
		Diquat	0.244	24.7%	0.154	-1.5	
		Matrine	0.124	26.5%	0.146	0.7	
14	B	Bromide	21.3	20.7%	24.4	0.6	2.3
		Ethepron	0.228	21.1%	FN	-3.7	
		Glufosinate	0.216	17.1%	0.557^(o)	6.3	
		Glyphosate	0.510	18.5%	0.201	-2.4	
		Diquat	0.244	24.7%	0.236	-0.1	
		Matrine	0.124	26.5%	FN	-3.7	
		Paraquat	0.264	25.0%	0.306	0.6	
15	A	Bromide	21.3	20.7%	14.3	-1.3	0.7
		Ethepron	0.228	21.1%	0.214	-0.3	
		Glufosinate	0.216	17.1%	0.238	0.4	
		Glyphosate	0.510	18.5%	0.768	2.0	
		Phosphonic Acid	0.676	24.3%	0.681	0.0	
		Chlorate	1.03	20.7%	1.13	0.4	
16	B	Ethepron	0.228	21.1%	0.10	-2.3	n.c.
		Glyphosate	0.510	18.5%	0.56	0.4	
		Phosphonic Acid	0.676	24.3%	0.30	-2.2	
		Chlorate	1.03	20.7%	0.73	-1.2	
17	B	Bromide	21.3	20.7%	20.9	-0.1	0.6
		Ethepron	0.228	21.1%	0.202	-0.5	
		Glufosinate	0.216	17.1%	0.251	0.7	
		Glyphosate	0.510	18.5%	0.424	-0.7	
		Phosphonic Acid	0.676	24.3%	0.648	-0.2	
		2-CE	4.66	27.3%	3.70	-0.8	
		EO (sum)	2.55	27.7%	2.02	-0.8	
		Chlorate	1.03	20.7%	1.13	0.4	
		Matrine	0.124	26.5%	0.139	0.5	
		Nicotine	0.255	27.5%	0.200	-0.9	
		Trimesium	0.073	14.8%	0.0956	1.2	
18	B	Ethepron	0.228	21.1%	0.232	0.1	0.2
		Glufosinate	0.216	17.1%	0.201	-0.3	
		Glyphosate	0.510	18.5%	0.482	-0.2	
		Phosphonic Acid	0.676	24.3%	0.635	-0.2	
		2-CE	4.66	27.3%	4.53	-0.1	
		EO (sum)	2.55	27.7%	2.48	-0.1	
19	A	Bromide	21.3	20.7%	11.3	-1.9	1.1
		Ethepron	0.228	21.1%	0.197	-0.5	
		Glufosinate	0.216	17.1%	0.186	-0.6	
		Glyphosate	0.510	18.5%	0.434	-0.6	
		Phosphonic Acid	0.676	24.3%	0.605	-0.4	
		2-CE	4.66	27.3%	1.33	-2.9	
		EO (sum)	2.55	27.7%	0.723	-2.9	
		Chlorate	1.03	20.7%	0.785	-1.0	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Diquat	0.244	24.7%	0.230	-0.2	
		Matrine	0.124	26.5%	0.145	0.7	
		Nicotine	0.255	27.5%	0.277	0.4	
		Paraquat	0.264	25.0%	0.221	-0.7	
		Trimesium	0.073	14.8%	FN	-3.5	
20	B	Ethepron	0.228	21.1%	0.267	0.7	n.c.
		Glufosinate	0.216	17.1%	0.215	0.0	
		Glyphosate	0.510	18.5%	0.497	-0.1	
		Nicotine	0.255	27.5%	0.230	-0.4	
21	A	Bromide	21.3	20.7%	25.1	0.7	0.5
		Ethepron	0.228	21.1%	0.301	1.3	
		Glufosinate	0.216	17.1%	0.199	-0.3	
		Glyphosate	0.510	18.5%	0.479	-0.2	
		Phosphonic Acid	0.676	24.3%	0.921	1.5	
		2-CE	4.66	27.3%	4.55	-0.1	
		EO (sum)	2.55	27.7%	2.49	-0.1	
		Chlorate	1.03	20.7%	1.25	0.8	
		Diquat	0.244	24.7%	0.248	0.1	
		Matrine	0.124	26.5%	0.134	0.3	
		Nicotine	0.255	27.5%	0.269	0.2	
		Paraquat	0.264	25.0%	0.256	-0.1	
		Trimesium	0.073	14.8%	0.071	-0.1	
22	B	Bromide	21.3	20.7%	13.220	-1.5	1.2
		Ethepron	0.228	21.1%	0.203	-0.4	
		Glyphosate	0.510	18.5%	0.5101	0.0	
		Phosphonic Acid	0.676	24.3%	0.696	0.1	
		2-CE	4.66	27.3%	FN	-4.0	
		EO (sum)	2.55	27.7%	FN	-3.9	
		Chlorate	1.03	20.7%	0.703	-1.3	
23	A	Bromide	21.3	20.7%	12.7	-1.6	0.5
		Ethepron	0.228	21.1%	0.219	-0.2	
		Glufosinate	0.216	17.1%	0.227	0.2	
		Glyphosate	0.510	18.5%	0.573	0.5	
		Phosphonic Acid	0.676	24.3%	0.825	0.9	
		Chlorate	1.03	20.7%	0.886	-0.6	
		Diquat	0.244	24.7%	0.245	0.0	
		Matrine	0.124	26.5%	0.139	0.5	
		Nicotine	0.255	27.5%	0.271	0.3	
		Paraquat	0.264	25.0%	0.264	0.0	
		Trimesium	0.073	14.8%	0.069	-0.2	
24	A	Bromide	21.3	20.7%	18.3	-0.6	0.4
		Ethepron	0.228	21.1%	0.204	-0.4	
		Glufosinate	0.216	17.1%	0.221	0.1	
		Glyphosate	0.510	18.5%	0.413	-0.8	
		Phosphonic Acid	0.676	24.3%	0.715	0.2	
		Chlorate	1.03	20.7%	1.03	0.0	
25	A	Bromide	21.3	20.7%	34.9	2.6	1.2
		Ethepron	0.228	21.1%	0.203	-0.4	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Glufosinate	0.216	17.1%	0.200	-0.3	
		Glyphosate	0.510	18.5%	0.570	0.5	
		Phosphonic Acid	0.676	24.3%	0.364	-1.9	
		Chlorate	1.03	20.7%	1.90	3.4	
		Nicotine	0.255	27.5%	0.266	0.2	
		Trimesium	0.073	14.8%	0.0718	-0.1	
26	A	Ethephon	0.228	21.1%	0.28	0.9	0.9
		Glufosinate	0.216	17.1%	0.22	0.1	
		Glyphosate	0.510	18.5%	0.41	-0.8	
		Phosphonic Acid	0.676	24.3%	0.99	1.9	
		2-CE	4.66	27.3%	6.09 ^(cal)	1.2	
		EO (sum)	2.55	27.7%	3.33	1.2	
		Chlorate	1.03	20.7%	0.98	-0.2	
		Diquat	0.244	24.7%	0.30	0.9	
		Paraquat	0.264	25.0%	0.34	1.2	
27	B	Ethephon	0.228	21.1%	0.31	1.4	3.2
		Glufosinate	0.216	17.1%	0.43	4.0	
		Glyphosate	0.510	18.5%	1.3 ^(o)	6.2	
		Phosphonic Acid	0.676	24.3%	FN	-3.4	
		2-CE	4.66	27.3%	2.19 ^(cal)	-2.1	
		EO (sum)	2.55	27.7%	1.2	-2.1	
28	B	Bromide	21.3	20.7%	FN	-3.6	2.0
		Ethephon	0.228	21.1%	0.35	2.1	
		Glufosinate	0.216	17.1%	0.16	-1.0	
		Glyphosate	0.510	18.5%	0.35	-1.3	
		Phosphonic Acid	0.676	24.3%	0.36	-1.9	
		Chlorate	1.03	20.7%	0.35	-2.6	
		Diquat	0.244	24.7%	0.2	-0.7	
		Matrine	0.124	26.5%	0.36 ^(o)	7.6	
		Nicotine	0.255	27.5%	0.17	-1.3	
		Paraquat	0.264	25.0%	0.23	-0.5	
29	B	Glufosinate	0.216	17.1%	0.00001 ^(o)	-4.0	n.c.
30	B	Glyphosate	0.510	18.5%	0.428	-0.6	n.c.
32	B	Glyphosate	0.510	18.5%	0.543	0.3	n.c.
		2-CE	4.66	27.3%	0.393 ^(cal)	-3.7	
		EO (sum)	2.55	27.7%	0.215	-3.7	
33	B	Ethephon	0.228	21.1%	0.175	-0.9	n.c.
		Glyphosate	0.510	18.5%	0.5106	0.1	
		Phosphonic Acid	0.676	24.3%	0.5109	-0.9	
		Chlorate	1.03	20.7%	1.11	0.3	
35	A	Bromide	21.3	20.7%	20.4	-0.2	n.c.
		Ethephon	0.228	21.1%	0.175	-0.9	
		Glufosinate	0.216	17.1%	0.252	0.7	
		Glyphosate	0.510	18.5%	0.447	-0.5	
36	A	Bromide	21.3	20.7%	34.5	2.5	1.3
		Ethephon	0.228	21.1%	0.19	-0.7	
		Glufosinate	0.216	17.1%	0.19	-0.5	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Glyphosate	0.510	18.5%	0.56	0.4	
		Phosphonic Acid	0.676	24.3%	0.53	-0.9	
		Chlorate	1.03	20.7%	1.7	2.6	
38	A	Bromide	21.3	20.7%	27.1	1.1	0.7
		Ethephon	0.228	21.1%	0.225	-0.1	
		Glufosinate	0.216	17.1%	0.224	0.2	
		Glyphosate	0.510	18.5%	0.682	1.4	
		Phosphonic Acid	0.676	24.3%	0.460	-1.3	
		2-CE	4.66	27.3%	4.02 ^(cal)	-0.6	
		EO (sum)	2.55	27.7%	2.20	-0.6	
		Chlorate	1.03	20.7%	1.27	0.9	
		Matrine	0.124	26.5%	0.154	1.0	
		Nicotine	0.255	27.5%	0.280	0.4	
		Trimesium	0.073	14.8%	0.078	0.3	
39	B	Glufosinate	0.216	17.1%	0.247	0.6	n.c.
		Glyphosate	0.510	18.5%	0.488	-0.2	
41	A	Ethephon	0.228	21.1%	0.217	-0.2	0.5
		Glufosinate	0.216	17.1%	0.195	-0.4	
		Glyphosate	0.510	18.5%	0.444	-0.5	
		Phosphonic Acid	0.676	24.3%	0.758	0.5	
		Chlorate	1.03	20.7%	0.889	-0.6	
		Matrine	0.124	26.5%	0.102	-0.7	
42	B	Bromide	21.3	20.7%	20.4	-0.2	0.1
		Glufosinate	0.216	17.1%	0.216	0.0	
		Glyphosate	0.510	18.5%	0.524	0.1	
		Phosphonic Acid	0.676	24.3%	0.631	-0.3	
		Chlorate	1.03	20.7%	1.04	0.0	
43	B	Bromide	21.3	20.7%	24.3	0.6	1.7
		Ethephon	0.228	21.1%	0.24	0.2	
		Glyphosate	0.510	18.5%	0.62	0.9	
		Phosphonic Acid	0.676	24.3%	0.80	0.7	
		Chlorate	1.03	20.7%	0.93	-0.4	
		Diquat	0.244	24.7%	0.73 ^(o)	8.0	
		Matrine	0.124	26.5%	0.057	-2.2	
		Nicotine	0.255	27.5%	0.070	-2.9	
		Paraquat	0.264	25.0%	0.49	3.4	
		Trimesium	0.073	14.8%	0.067	-0.3	
44	A	Bromide	21.3	20.7%	17.8	-0.7	0.6
		Ethephon	0.228	21.1%	0.235	0.1	
		Glufosinate	0.216	17.1%	0.206	-0.2	
		Glyphosate	0.510	18.5%	0.5107	0.1	
		Phosphonic Acid	0.676	24.3%	0.960	1.7	
		2-CE	4.66	27.3%	4.84	0.2	
		EO (sum)	2.55	27.7%	2.65	0.2	
		Chlorate	1.03	20.7%	1.14	0.4	
		Diquat	0.244	24.7%	0.206	-0.6	
		Matrine	0.124	26.5%	0.149	0.8	
		Nicotine	0.255	27.5%	0.303	0.8	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Paraquat	0.264	25.0%	0.217	-0.7	
		Trimesium	0.073	14.8%	0.084	0.6	
46 A		Bromide	21.3	20.7%	17.09	-0.8	0.6
		Ethephon	0.228	21.1%	0.191	-0.7	
		Glufosinate	0.216	17.1%	0.214	0.0	
		Glyphosate	0.510	18.5%	0.564	0.4	
		Phosphonic Acid	0.676	24.3%	0.616	-0.4	
		Chlorate	1.03	20.7%	1.099	0.3	
		Diquat	0.244	24.7%	0.223	-0.3	
		Matrine	0.124	26.5%	0.094	-1.0	
		Nicotine	0.255	27.5%	0.236	-0.3	
		Paraquat	0.264	25.0%	0.167	-1.5	
		Trimesium	0.073	14.8%	0.060	-0.7	
48 B		Glufosinate	0.216	17.1%	0.042	-3.2	n.c.
		Glyphosate	0.510	18.5%	0.089	-3.3	
49 B		Bromide	21.3	20.7%	22.0	0.1	n.c.
		Ethephon	0.228	21.1%	0.339	2.0	
		Glyphosate	0.510	18.5%	0.5101	0.0	
50 B	Glyphosate	0.510	18.5%	0.496	-0.1	n.c.	
51 B	Glyphosate	0.510	18.5%	0.82	2.4	n.c.	
52 A		Bromide	21.3	20.7%	23.95	0.5	1.0
		Ethephon	0.228	21.1%	0.169	-1.0	
		Glufosinate	0.216	17.1%	0.332	2.2	
		Glyphosate	0.510	18.5%	0.412	-0.8	
		Phosphonic Acid	0.676	24.3%	0.559	-0.7	
55 B		Diquat	0.244	24.7%	0.283	0.6	n.c.
		Paraquat	0.264	25.0%	0.303	0.6	
56 B		Ethephon	0.228	21.1%	0.213	-0.3	n.c.
		Glufosinate	0.216	17.1%	0.215	0.0	
		Glyphosate	0.510	18.5%	0.561	0.4	
		Chlorate	1.03	20.7%	1.01	-0.1	
57 A		Bromide	21.3	20.7%	17.3	-0.8	1.2
		Ethephon	0.228	21.1%	0.116	-2.0	
		Glufosinate	0.216	17.1%	0.236	0.4	
		Glyphosate	0.510	18.5%	0.213	-2.3	
		Phosphonic Acid	0.676	24.3%	0.593	-0.5	
		2-CE	4.66	27.3%	6.83	1.9	
		EO (sum)	2.55	27.7%	3.74^(cal)	1.9	
		Diquat	0.244	24.7%	0.306	1.0	
		Paraquat	0.264	25.0%	0.285	0.3	
59 A		Ethephon	0.228	21.1%	0.203	-0.4	0.5
		Glufosinate	0.216	17.1%	0.180	-0.7	
		Glyphosate	0.510	18.5%	0.490	-0.2	
		Phosphonic Acid	0.676	24.3%	0.668	-0.1	
		Diquat	0.244	24.7%	0.170	-1.2	
60 A		Bromide	21.3	20.7%	20.7	-0.1	0.6
		Ethephon	0.228	21.1%	0.250	0.4	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Glufosinate	0.216	17.1%	0.198	-0.3	
		Glyphosate	0.510	18.5%	0.448	-0.5	
		Phosphonic Acid	0.676	24.3%	0.538	-0.8	
		2-CE	4.66	27.3%	3.19	-1.3	
		EO (sum)	2.55	27.7%	1.75	-1.3	
		Chlorate	1.03	20.7%	0.934	-0.4	
		Trimesium	0.073	14.8%	0.057	-0.9	
61 B		Ethephon	0.228	21.1%	0.29	1.1	n.c.
		Glyphosate	0.510	18.5%	0.36	-1.2	
		Trimesium	0.073	14.8%	0.069	-0.2	
63 B		Ethephon	0.228	21.1%	0.987^(o)	13.3	1.9
		Glufosinate	0.216	17.1%	0.232	0.3	
		Glyphosate	0.510	18.5%	0.562	0.4	
		Phosphonic Acid	0.676	24.3%	0.578	-0.6	
		Chlorate	1.03	20.7%	1.32	1.1	
		Paraquat	0.264	25.0%	0.045	-3.3	
64 A		Ethephon	0.228	21.1%	0.130	-1.7	2.2
		Glufosinate	0.216	17.1%	0.104	-2.1	
		Glyphosate	0.510	18.5%	0.555	0.4	
		Phosphonic Acid	0.676	24.3%	0.179	-2.9	
		Diquat	0.244	24.7%	0.440	3.2	
		Paraquat	0.264	25.0%	0.086	-2.7	
65 A		Bromide	21.3	20.7%	20.2402	-0.2	1.2
		Ethephon	0.228	21.1%	0.4015	3.0	
		Glufosinate	0.216	17.1%	0.2950	1.5	
		Glyphosate	0.510	18.5%	0.6897	1.4	
		Phosphonic Acid	0.676	24.3%	0.7593	0.5	
66 B		Glyphosate	0.510	18.5%	0.5103	0.0	n.c.
		Nicotine	0.255	27.5%	0.177	-1.2	
68 A		Ethephon	0.228	21.1%	0.254	0.5	1.1
		Glufosinate	0.216	17.1%	0.217	0.0	
		Glyphosate	0.510	18.5%	0.566	0.4	
		Phosphonic Acid	0.676	24.3%	0.697	0.1	
		2-CE	4.66	27.3%	1.12	-3.0	
		EO (sum)	2.55	27.7%	0.613	-3.0	
		Chlorate	1.03	20.7%	1.13	0.4	
		Diquat	0.244	24.7%	0.259	0.3	
		Matrine	0.124	26.5%	0.441^(o)	10.2	
		Nicotine	0.255	27.5%	0.313	0.9	
		Paraquat	0.264	25.0%	0.222	-0.6	
		Trimesium	0.073	14.8%	0.083	0.6	
69 A		Bromide	21.3	20.7%	25.3	0.8	0.5
		Ethephon	0.228	21.1%	0.24	0.2	
		Glufosinate	0.216	17.1%	0.22	0.1	
		Glyphosate	0.510	18.5%	0.54	0.2	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Phosphonic Acid	0.676	24.3%	0.82	0.9	
		Chlorate	1.03	20.7%	1.1	0.3	
		Diquat	0.244	24.7%	0.22	-0.4	
		Matrine	0.124	26.5%	0.17	1.5	
		Nicotine	0.255	27.5%	0.30	0.7	
		Paraquat	0.264	25.0%	0.26	-0.1	
70	B	Ethephon	0.228	21.1%	0.22	-0.1	n.c.
71	A	Bromide	21.3	20.7%	23.3	0.4	0.3
		Ethephon	0.228	21.1%	0.222	-0.1	
		Glufosinate	0.216	17.1%	0.211	-0.1	
		Glyphosate	0.510	18.5%	0.507	0.0	
		Phosphonic Acid	0.676	24.3%	0.729	0.3	
		2-CE	4.66	27.3%	4.64	0.0	
		EO (sum)	2.55	27.7%	2.54^(cal)	0.0	
		Chlorate	1.03	20.7%	0.929	-0.4	
		Matrine	0.124	26.5%	0.144	0.7	
		Nicotine	0.255	27.5%	0.308	0.8	
		Trimesium	0.073	14.8%	0.0710	-0.1	
72	B	Glyphosate	0.510	18.5%	0.539	0.2	n.c.
		Nicotine	0.255	27.5%	0.230	-0.4	
73	A	Bromide	21.3	20.7%	24.7	0.6	1.3
		Ethephon	0.228	21.1%	0.307	1.4	
		Glufosinate	0.216	17.1%	0.288	1.3	
		Glyphosate	0.510	18.5%	0.540	0.2	
		Phosphonic Acid	0.676	24.3%	0.732	0.3	
		Chlorate	1.03	20.7%	1.12	0.3	
		Matrine	0.124	26.5%	0.354^(o)	7.4	
		Trimesium	0.073	14.8%	0.090	0.9	
75	A	Bromide	21.3	20.7%	19.9	-0.3	0.3
		Ethephon	0.228	21.1%	0.215	-0.2	
		Glufosinate	0.216	17.1%	0.21	-0.1	
		Glyphosate	0.510	18.5%	0.52	0.1	
		Phosphonic Acid	0.676	24.3%	0.665	-0.1	
		2-CE	4.66	27.3%	3.66	-0.9	
		EO (sum)	2.55	27.7%	2.0	-0.9	
		Chlorate	1.03	20.7%	1.004	-0.1	
		Matrine	0.124	26.5%	0.13	0.2	
		Nicotine	0.255	27.5%	0.234	-0.3	
		Trimesium	0.073	14.8%	0.066	-0.4	
76	A	Bromide	21.3	20.7%	22.9	0.3	0.4
		Ethephon	0.228	21.1%	0.293	1.1	
		Glufosinate	0.216	17.1%	0.210	-0.1	
		Glyphosate	0.510	18.5%	0.500	-0.1	
		Phosphonic Acid	0.676	24.3%	0.594	-0.5	
78	B	Chlorate	1.03	20.7%	1.10	0.3	n.c.
79	A	Bromide	21.3	20.7%	19	-0.4	0.6
		Ethephon	0.228	21.1%	0.23	0.0	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Glufosinate	0.216	17.1%	0.27	1.0	
		Glyphosate	0.510	18.5%	0.74	1.8	
		Phosphonic Acid	0.676	24.3%	0.78	0.6	
		2-CE	4.66	27.3%	6.03^(cal)	1.2	
		EO (sum)	2.55	27.7%	3.3	1.2	
		Chlorate	1.03	20.7%	1.0	-0.1	
		Diquat	0.244	24.7%	0.27	0.4	
		Matrine	0.124	26.5%	0.131	0.2	
		Nicotine	0.255	27.5%	0.26	0.1	
		Paraquat	0.264	25.0%	0.31	0.7	
80	B	Glyphosate	0.510	18.5%	0.466	-0.4	n.c.
82	B	Glufosinate	0.216	17.1%	0.222	0.1	n.c.
		Glyphosate	0.510	18.5%	0.460	-0.4	
		Chlorate	1.03	20.7%	1.14	0.4	
83	A	Bromide	21.3	20.7%	22.5	0.2	1.6
		Ethephon	0.228	21.1%	0.282	1.0	
		Glufosinate	0.216	17.1%	0.260	0.8	
		Glyphosate	0.510	18.5%	0.489	-0.2	
		Phosphonic Acid	0.676	24.3%	0.962	1.7	
		Chlorate	1.03	20.7%	1.24	0.8	
		Diquat	0.244	24.7%	0.616^(o)	6.1	
		Paraquat	0.264	25.0%	0.520	3.9	
		Trimesium	0.073	14.8%	0.0810	0.4	
84	A	Bromide	21.3	20.7%	10.2	-2.1	1.7
		Ethephon	0.228	21.1%	0.142	-1.5	
		Glufosinate	0.216	17.1%	0.166	-0.9	
		Glyphosate	0.510	18.5%	0.363	-1.2	
		Phosphonic Acid	0.676	24.3%	0.189	-2.9	
86	B	Glyphosate	0.510	18.5%	FN	-3.2	n.c.
		Nicotine	0.255	27.5%	0.446	3.0	
87	B	Bromide	21.3	20.7%	21.8	0.1	1.2
		Ethephon	0.228	21.1%	0.211	-0.3	
		Glyphosate	0.510	18.5%	0.539	0.2	
		Phosphonic Acid	0.676	24.3%	1.06	2.3	
		2-CE	4.66	27.3%	3.98	-0.6	
		EO (sum)	2.55	27.7%	2.15	-0.6	
		Chlorate	1.03	20.7%	0.806	-0.9	
		Diquat	0.244	24.7%	0.240	-0.1	
		Matrine	0.124	26.5%	0.195	2.3	
		Paraquat	0.264	25.0%	0.242	-0.3	
		Trimesium	0.073	14.8%	0.249^(o)	9.6	
88	A	Ethephon	0.228	21.1%	0.248	0.4	1.3
		Glufosinate	0.216	17.1%	0.190	-0.5	
		Glyphosate	0.510	18.5%	0.799	2.3	
		Phosphonic Acid	0.676	24.3%	0.781	0.6	
		2-CE	4.66	27.3%	3.78	-0.8	
		EO (sum)	2.55	27.7%	2.41	-0.2	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Chlorate	1.03	20.7%	0.933	-0.4	
		Diquat	0.244	24.7%	0.414	2.8	
		Paraquat	0.264	25.0%	0.537	4.1	
90	B	Bromide	21.3	20.7%	14.16	-1.3	1.0
		Ethephon	0.228	21.1%	0.275	0.8	
		Glyphosate	0.510	18.5%	0.611	0.8	
		Phosphonic Acid	0.676	24.3%	1.132	2.7	
		Diquat	0.244	24.7%	0.154	-1.5	
		Matrine	0.124	26.5%	0.140	0.5	
		Nicotine	0.255	27.5%	0.240	-0.2	
		Paraquat	0.264	25.0%	0.252	-0.2	
92	A	Ethephon	0.228	21.1%	0.237	0.2	0.2
		Glufosinate	0.216	17.1%	0.220	0.1	
		Glyphosate	0.510	18.5%	0.533	0.2	
		Phosphonic Acid	0.676	24.3%	0.699	0.1	
		Diquat	0.244	24.7%	0.241	-0.1	
		Paraquat	0.264	25.0%	0.253	-0.2	
93	A	Bromide	21.3	20.7%	22.4	0.2	0.4
		Ethephon	0.228	21.1%	0.24	0.2	
		Glufosinate	0.216	17.1%	0.241	0.5	
		Glyphosate	0.510	18.5%	0.613	0.8	
		Phosphonic Acid	0.676	24.3%	0.607	-0.4	
		Chlorate	1.03	20.7%	1.03	0.0	
		Nicotine	0.255	27.5%	0.316	1.0	
		Trimesium	0.073	14.8%	0.065	-0.4	
94	B	Bromide	21.3	20.7%	25.4	0.8	1.8
		Glufosinate	0.216	17.1%	1.104	16.4 ^(o)	
		Glyphosate	0.510	18.5%	0.813	2.4	
		2-CE	4.66	27.3%	6.25 ^(cal)	1.4	
		EO (sum)	2.55	27.7%	3.42	1.4	
		Diquat	0.244	24.7%	0.230	-0.2	
		Paraquat	0.264	25.0%	0.201	-1.0	
95	B	Bromide	21.3	20.7%	21.8	0.1	n.c.
96	A	Bromide	21.3	20.7%	17.6	-0.7	0.4
		Ethephon	0.228	21.1%	0.205	-0.4	
		Glufosinate	0.216	17.1%	0.209	-0.1	
		Glyphosate	0.510	18.5%	0.568	0.5	
		Phosphonic Acid	0.676	24.3%	0.611	-0.4	
		2-CE	4.66	27.3%	3.56 ^(cal)	-0.9	
		EO (sum)	2.55	27.7%	1.95	-0.9	
		Chlorate	1.03	20.7%	0.87	-0.6	
		Diquat	0.244	24.7%	0.225	-0.3	
		Matrine	0.124	26.5%	0.12	-0.1	
		Nicotine	0.255	27.5%	0.272	0.3	
		Paraquat	0.264	25.0%	0.265	0.0	
97	A	Bromide	21.3	20.7%	21.010	-0.1	0.4
		Ethephon	0.228	21.1%	0.270	0.7	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Glufosinate	0.216	17.1%	0.234	0.3	
		Glyphosate	0.510	18.5%	0.458	-0.4	
		Phosphonic Acid	0.676	24.3%	0.654	-0.1	
		2-CE	4.66	27.3%	3.768	-0.8	
		EO (sum)	2.55	27.7%	2.059	-0.8	
		Chlorate	1.03	20.7%	1.108	0.3	
		Matrine	0.124	26.5%	0.144	0.7	
		Nicotine	0.255	27.5%	0.281	0.4	
99	A	Bromide	21.3	20.7%	19.0	-0.4	0.4
		Ethephon	0.228	21.1%	0.277	0.9	
		Glufosinate	0.216	17.1%	0.228	0.2	
		Glyphosate	0.510	18.5%	0.480	-0.2	
		Phosphonic Acid	0.676	24.3%	0.625	-0.3	
		Chlorate	1.03	20.7%	1.11	0.3	
101	B	Paraquat	0.264	25.0%	0.284	0.3	n.c.
102	B	Bromide	21.3	20.7%	22	0.1	1.5
		Ethephon	0.228	21.1%	0.163	-1.1	
		Glufosinate	0.216	17.1%	0.398	3.4	
		Glyphosate	0.510	18.5%	0.573	0.5	
		Phosphonic Acid	0.676	24.3%	0.482	-1.2	
		Chlorate	1.03	20.7%	0.354	-2.6	
		Matrine	0.124	26.5%	0.091	-1.1	
		Nicotine	0.255	27.5%	0.132	-1.9	
103	B	Bromide	21.3	20.7%	23.0	0.3	n.c.
		Ethephon	0.228	21.1%	0.230	0.0	
		Glufosinate	0.216	17.1%	0.220	0.1	
		Glyphosate	0.510	18.5%	0.500	-0.1	
104	B	Glufosinate	0.216	17.1%	0.14	-1.4	n.c.
		Glyphosate	0.510	18.5%	0.36	-1.2	
		Phosphonic Acid	0.676	24.3%	FN	-3.4	
		Trimesium	0.073	14.8%	0.075	0.1	
105	A	Bromide	21.3	20.7%	25.7	0.8	1.0
		Ethephon	0.228	21.1%	0.228	0.0	
		Glufosinate	0.216	17.1%	0.193	-0.4	
		Glyphosate	0.510	18.5%	FN	-3.2	
		Phosphonic Acid	0.676	24.3%	0.803	0.8	
		Chlorate	1.03	20.7%	0.896	-0.5	
		Matrine	0.124	26.5%	0.079	-1.5	
107	A	Ethephon	0.228	21.1%	0.249	0.4	0.8
		Glufosinate	0.216	17.1%	0.219	0.1	
		Glyphosate	0.510	18.5%	0.391	-0.9	
		Phosphonic Acid	0.676	24.3%	0.768	0.5	
		Chlorate	1.03	20.7%	0.723	-1.2	
		Diquat	0.244	24.7%	0.193	-0.8	
		Matrine	0.124	26.5%	0.153	0.9	
		Nicotine	0.255	27.5%	0.362	1.7	
		Paraquat	0.264	25.0%	0.205	-0.9	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Trimesium	0.073	14.8%	0.080	0.4	
109 B		2-CE	4.66	27.3%	8.70	3.5	n.c.
		EO (sum)	2.55	27.7%	5.74^(o)	5.0	
111 B		Ethephon	0.228	21.1%	0.345	2.1	n.c.
		Glufosinate	0.216	17.1%	0.276	1.1	
		Glyphosate	0.510	18.5%	0.305	-1.6	
		Chlorate	1.03	20.7%	0.641	-1.5	
112 B		Bromide	21.3	20.7%	19.0	-0.4	1.1
		Ethephon	0.228	21.1%	0.257	0.5	
		Glufosinate	0.216	17.1%	0.211	-0.1	
		Glyphosate	0.510	18.5%	0.486	-0.2	
		Phosphonic Acid	0.676	24.3%	0.769	0.6	
		2-CE	4.66	27.3%	2.99	-1.4	
		EO (sum)	2.55	27.7%	1.64	-1.4	
		Chlorate	1.03	20.7%	1.20	0.7	
		Nicotine	0.255	27.5%	0.544	4.5	
113 A		Ethephon	0.228	21.1%	0.195	-0.6	1.3
		Glufosinate	0.216	17.1%	0.21	-0.1	
		Glyphosate	0.510	18.5%	0.510	0.0	
		Phosphonic Acid	0.676	24.3%	0.472	-1.2	
		Chlorate	1.03	20.7%	1.463	1.7	
		Diquat	0.244	24.7%	0.459	3.5	
		Matrine	0.124	26.5%	0.139	0.5	
		Paraquat	0.264	25.0%	0.497	3.5	
		Trimesium	0.073	14.8%	0.059	-0.8	
114 B		Bromide	21.3	20.7%	27	1.1	1.8
		Ethephon	0.228	21.1%	0.18	-0.8	
		Glufosinate	0.216	17.1%	0.04	-3.3	
		Glyphosate	0.510	18.5%	0.59	0.6	
		Phosphonic Acid	0.676	24.3%	0.57	-0.6	
		2-CE	4.66	27.3%	5.47	0.7	
		EO (sum)	2.55	27.7%	3.0	0.7	
		Chlorate	1.03	20.7%	0.24	-3.1	
		Matrine	0.124	26.5%	0.03	-3.0	
		Nicotine	0.255	27.5%	0.06	-3.1	
115 B		Bromide	21.3	20.7%	33.9	2.4	0.8
		Ethephon	0.228	21.1%	0.193	-0.6	
		Glufosinate	0.216	17.1%	0.178	-0.7	
		Glyphosate	0.510	18.5%	0.488	-0.2	
		Phosphonic Acid	0.676	24.3%	0.696	0.1	
		2-CE	4.66	27.3%	2.90	-1.5	
		EO (sum)	2.55	27.7%	1.59^(cal)	-1.5	
		Chlorate	1.03	20.7%	1.26	0.9	
		Matrine	0.124	26.5%	0.138	0.5	
		Nicotine	0.255	27.5%	0.298	0.7	
116 B		Ethephon	0.228	21.1%	0.227	0.0	n.c.
118 A		Bromide	21.3	20.7%	24.5	0.6	1.4

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Ethephon	0.228	21.1%	1.01^(o)	13.7	
		Glufosinate	0.216	17.1%	0.14	-1.4	
		Glyphosate	0.510	18.5%	0.59	0.6	
		Phosphonic Acid	0.676	24.3%	FN	-3.4	
		2-CE	4.66	27.3%	0.94	-3.2	
		EO (sum)	2.55	27.7%	0.510	-3.2	
		Chlorate	1.03	20.7%	0.96	-0.3	
		Diquat	0.244	24.7%	0.27	0.4	
		Matrine	0.124	26.5%	0.11	-0.5	
		Nicotine	0.255	27.5%	0.23	-0.4	
		Paraquat	0.264	25.0%	0.26	-0.1	
120 B		Bromide	21.3	20.7%	FN	-3.6	2.0
		Ethephon	0.228	21.1%	0.317	1.6	
		Glufosinate	0.216	17.1%	0.36	2.7	
		Glyphosate	0.510	18.5%	0.493	-0.1	
		Phosphonic Acid	0.676	24.3%	0.767	0.5	
		2-CE	4.66	27.3%	17.2^(o)	10.8	
		EO (sum)	2.55	27.7%	9.4^(o)	10.1	
		Nicotine	0.255	27.5%	0.271	0.3	
121 A		Bromide	21.3	20.7%	20	-0.2	0.9
		Ethephon	0.228	21.1%	0.23	0.0	
		Glufosinate	0.216	17.1%	0.20	-0.3	
		Glyphosate	0.510	18.5%	0.27	-1.9	
		2-CE	4.66	27.3%	2.0	-2.3	
		EO (sum)	2.55	27.7%	1.09^(cal)	-2.3	
123 B		Glyphosate	0.510	18.5%	1.00	3.8	n.c.
		Chlorate	1.03	20.7%	1.09	0.2	
		Nicotine	0.255	27.5%	0.32	1.0	
124 A		Bromide	21.3	20.7%	24.0	0.5	0.4
		Ethephon	0.228	21.1%	0.206	-0.4	
		Glufosinate	0.216	17.1%	0.247	0.6	
		Glyphosate	0.510	18.5%	0.532	0.2	
		Phosphonic Acid	0.676	24.3%	0.548	-0.8	
		Chlorate	1.03	20.7%	1.07	0.1	
		Diquat	0.244	24.7%	0.243	0.0	
		Matrine	0.124	26.5%	0.132	0.3	
		Nicotine	0.255	27.5%	0.225	-0.5	
		Paraquat	0.264	25.0%	0.268	0.1	
126 A		Bromide	21.3	20.7%	21.64	0.1	0.6
		Ethephon	0.228	21.1%	0.203	-0.4	
		Glufosinate	0.216	17.1%	0.256	0.7	
		Glyphosate	0.510	18.5%	0.460	-0.4	
		Phosphonic Acid	0.676	24.3%	0.582	-0.6	
		2-CE	4.66	27.3%	5.659	0.9	
		EO (sum)	2.55	27.7%	3.237	1.1	
		Chlorate	1.03	20.7%	0.796	-0.9	
		Diquat	0.244	24.7%	0.209	-0.6	
		Matrine	0.124	26.5%	0.130	0.2	

Lab code	Cat	Name	AV [mg/kg]	CV* %	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Nicotine	0.255	27.5%	0.291	0.6	
		Paraquat	0.264	25.0%	0.221	-0.7	
		Trimesium	0.073	14.8%	0.069	-0.2	
Results of labs based in countries outside the EU/EFTA zone + commercial labs based in EU but only entailing EO in official scope							
34	B	Bromide	21.3	20.7%	FN	-3.9	n.c.
		Ethephon	0.228	21.1%	0.172	-1.0	
		Glufosinate	0.216	17.1%	0.247	0.6	
		Glyphosate	0.510	18.5%	0.5103	0.0	
40	A	Bromide	21.3	20.7%	40.3	3.6	1.0
		Ethephon	0.228	21.1%	0.218	-0.2	
		Glufosinate	0.216	17.1%	0.189	-0.5	
		Glyphosate	0.510	18.5%	0.447	-0.5	
		Phosphonic Acid	0.676	24.3%	0.936	1.5	
		2-CE	4.66	27.3%	6.25^(cal)	1.4	
		EO (sum)	2.55	27.7%	3.42	1.4	
		Chlorate	1.03	20.7%	1.37	1.3	
		Diquat	0.244	24.7%	0.282	0.6	
		Matrine	0.124	26.5%	0.0530	-2.3	
		Nicotine	0.255	27.5%	0.258	0.1	
		Paraquat	0.264	25.0%	0.241	-0.4	
		Trimesium	0.073	14.8%	0.0749	0.1	
45	A	Bromide	21.3	20.7%	20.6	-0.1	0.5
		Ethephon	0.228	21.1%	0.243	0.3	
		Glufosinate	0.216	17.1%	0.243	0.5	
		Glyphosate	0.510	18.5%	0.532	0.2	
		Phosphonic Acid	0.676	24.3%	0.737	0.4	
		2-CE	4.66	27.3%	6.33	1.4	
		EO (sum)	2.55	27.7%	3.46^(cal)	1.4	
		Chlorate	1.03	20.7%	1.16	0.5	
		Matrine	0.124	26.5%	0.136	0.4	
47	A	Bromide	21.3	20.7%	21.9	0.1	0.4
		Ethephon	0.228	21.1%	0.262	0.6	
		Glufosinate	0.216	17.1%	0.216	0.0	
		Glyphosate	0.510	18.5%	0.530	0.2	
		Phosphonic Acid	0.676	24.3%	0.682	0.0	
		Chlorate	1.03	20.7%	1.18	0.6	
		Diquat	0.244	24.7%	0.2	-0.7	
		Matrine	0.124	26.5%	0.102	-0.7	
		Nicotine	0.255	27.5%	0.255	0.0	
		Paraquat	0.264	25.0%	0.207	-0.9	
53	A	Bromide	21.3	20.7%	20.8	-0.1	0.4
		Ethephon	0.228	21.1%	0.230	0.0	
		Glufosinate	0.216	17.1%	0.210	-0.1	
		Glyphosate	0.510	18.5%	0.525	0.1	
		Phosphonic Acid	0.676	24.3%	0.635	-0.2	
		Chlorate	1.03	20.7%	0.895	-0.5	
		Diquat	0.244	24.7%	0.200	-0.7	

Lab code	Cat	Name	AV [mg/kg]	CV* %	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Paraquat	0.264	25.0%	0.195	-1.1	
54	A	Bromide	21.3	20.7%	22.1	0.2	0.5
		Ethephon	0.228	21.1%	0.261	0.6	
		Glufosinate	0.216	17.1%	0.248	0.6	
		Glyphosate	0.510	18.5%	0.528	0.1	
		Phosphonic Acid	0.676	24.3%	0.770	0.6	
		2-CE	4.66	27.3%	5.00	0.3	
		EO (sum)	2.55	27.7%	2.74	0.3	
		Chlorate	1.03	20.7%	1.18	0.6	
		Diquat	0.244	24.7%	0.242	0.0	
		Matrine	0.124	26.5%	0.163	1.3	
		Nicotine	0.255	27.5%	0.245	-0.2	
		Paraquat	0.264	25.0%	0.217	-0.7	
		Trimesium	0.073	14.8%	0.067	-0.3	
58	A	Bromide	21.3	20.7%	20.5	-0.2	0.7
		Ethephon	0.228	21.1%	0.22	-0.1	
		Glufosinate	0.216	17.1%	0.22	0.1	
		Glyphosate	0.510	18.5%	0.45	-0.5	
		Phosphonic Acid	0.676	24.3%	0.69	0.1	
		2-CE	4.66	27.3%	5.32	0.6	
		EO (sum)	2.55	27.7%	2.93	0.6	
		Chlorate	1.03	20.7%	1	-0.1	
		Diquat	0.244	24.7%	0.23	-0.2	
		Matrine	0.124	26.5%	0.22	3.1	
		Nicotine	0.255	27.5%	0.4	2.3	
		Paraquat	0.264	25.0%	0.34	1.2	
		Trimesium	0.073	14.8%	0.07	-0.2	
77	A	Bromide	21.3	20.7%	38.6	3.3	1.1
		Ethephon	0.228	21.1%	0.270	0.7	
		Glufosinate	0.216	17.1%	0.180	-0.7	
		Glyphosate	0.510	18.5%	0.530	0.2	
		Phosphonic Acid	0.676	24.3%	0.530	-0.9	
		2-CE	4.66	27.3%	3.00	-1.4	
		EO (sum)	2.55	27.7%	1.83	-1.1	
		Chlorate	1.03	20.7%	1.09	0.2	
		Matrine	0.124	26.5%	0.160	1.2	
		Nicotine	0.255	27.5%	0.320	1.0	
85	B	Glufosinate	0.216	17.1%	0.208	-0.2	
		Glyphosate	0.510	18.5%	0.442	-0.5	
		2-CE	4.66	27.3%	6.54^(cal)	1.6	
		EO (sum)	2.55	27.7%	3.58	1.6	
91	A	Bromide	21.3	20.7%	23.2	0.4	0.4
		Ethephon	0.228	21.1%	0.156	-1.3	
		Glufosinate	0.216	17.1%	0.217	0.0	
		Glyphosate	0.510	18.5%	0.544	0.3	
		Phosphonic Acid	0.676	24.3%	0.628	-0.3	
		2-CE	4.66	27.3%	3.88	-0.7	
		EO (sum)	2.55	27.7%	2.13	-0.7	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
		Trimesium	0.073	14.8%	0.0754	0.1	
98 B		Bromide	21.3	20.7%	21.7	0.1	n.c.
		Glufosinate	0.216	17.1%	0.201	-0.3	
		Glyphosate	0.510	18.5%	0.467	-0.3	
		2-CE	4.66	27.3%	5.67^(cal)	0.9	
		EO (sum)	2.55	27.7%	3.10	0.9	
100 A		Bromide	21.3	20.7%	22.89	0.3	1.1
		Ethepron	0.228	21.1%	0.075	-2.7	
		Glufosinate	0.216	17.1%	0.22	0.1	
		Glufosinate	0.216	17.1%	0.521	0.1	
		Phosphonic Acid	0.676	24.3%	0.82	0.9	
		2-CE	4.66	27.3%	4.05	-0.5	
		EO (sum)	2.55	27.7%	2.21	-0.5	
		Diquat	0.244	24.7%	0.212	-0.5	
		Nicotine	0.255	27.5%	0.28	0.4	
		Paraquat	0.264	25.0%	FN	-4.0	
106 B		Bromide	21.3	20.7%	24.8	0.7	1.0
		Ethepron	0.228	21.1%	0.295	1.2	
		Glufosinate	0.216	17.1%	0.312	1.8	
		Glyphosate	0.510	18.5%	0.609	0.8	
		Phosphonic Acid	0.676	24.3%	0.538	-0.8	
		2-CE	4.66	27.3%	1.69	-2.6	
		EO (sum)	2.55	27.7%	0.925	-2.6	
		Chlorate	1.03	20.7%	1.18	0.6	
		Diquat	0.244	24.7%	0.281	0.6	
		Matrine	0.124	26.5%	0.147	0.7	
		Paraquat	0.264	25.0%	0.242	-0.3	
108 B		Bromide	21.3	20.7%	19.503	-0.3	n.c.
		Glyphosate	0.510	18.5%	0.115	-3.1	
		Diquat	0.244	24.7%	0.157	-1.4	
		Paraquat	0.264	25.0%	0.146	-1.8	
110 B		2-CE	4.66	27.3%	4.412	-0.2	n.c.
		EO (sum)	2.55	27.7%	2.418	-0.2	
117 B		Glyphosate	0.510	18.5%	0.47	-0.3	0.6
		Phosphonic Acid	0.676	24.3%	0.65	-0.2	
		2-CE	4.66	27.3%	5.44	0.7	
		EO (sum)	2.55	27.7%	2.98	0.7	
		Chlorate	1.03	20.7%	1.08	0.2	
		Matrine	0.124	26.5%	0.18	1.8	
119 B		2-CE	4.66	27.3%	3.08^(cal)	-1.4	n.c.
		EO (sum)	2.55	27.7%	1.683	-1.4	
122 B		2-CE	4.66	27.3%	4.75^(cal)	0.1	n.c.
		EO (sum)	2.55	27.7%	2.60	0.1	
125 B		Bromide	21.3	20.7%	19.3	-0.4	0.4
		Ethepron	0.228	21.1%	0.23	0.0	
		Glufosinate	0.216	17.1%	0.18	-0.7	

Lab code	Cat	Name	AV [mg/kg]	CV*	Conc [mg/kg]	Prel. z-Score	Prel. AZZ
127 B		Glyphosate	0.510	18.5%	0.55	0.3	
		2-CE	4.66	27.3%	6.03^(cal)	1.2	
		EO (sum)	2.55	27.7%	3.3	1.2	
		Chlorate	1.03	20.7%	1.0	-0.1	
		Nicotine	0.255	27.5%	0.25	-0.1	
128 B		Bromide	21.3	20.7%	20.4	-0.2	0.8
		Ethepron	0.228	21.1%	0.19	-0.7	
		Glyphosate	0.510	18.5%	0.49	-0.2	
		Phosphonic Acid	0.676	24.3%	0.43	-1.5	
		2-CE	4.66	27.3%	3.16^(cal)	-1.3	
		EO (sum)	2.55	27.7%	1.73	-1.3	
		Chlorate	1.03	20.7%	0.77	-1.0	
		Matrine	0.124	26.5%	0.09	-1.1	
		Nicotine	0.255	27.5%	0.29	0.6	
129 B		Bromide	21.3	20.7%	17.39	-0.7	1.7
		Ethepron	0.228	21.1%	FN	-3.7	
		Glufosinate	0.216	17.1%	0.184	-0.6	
		Glyphosate	0.510	18.5%	0.506	0.0	
		Phosphonic Acid	0.676	24.3%	FN	-3.4	
		2-CE	4.66	27.3%	4.19	-0.4	
130 B		EO (sum)	2.55	27.7%	2.2	-0.6	
		Nicotine	0.255	27.5%	0.202	-0.8	
		Ethepron	0.228	21.1%	FN	-3.8	2.8
		Glyphosate	0.510	18.5%	0.428	-0.6	
		Phosphonic Acid	0.676	24.3%	FN	-3.4	
		2-CE	4.66	27.3%	3.07^(cal)	-1.4	
131 B		EO (sum)	2.55	27.7%	1.68	-1.4	
		Diquat	0.244	24.7%	FN	-3.8	
		Paraquat	0.264	25.0%	FN	-3.9	
		Bromide	21.3	20.7%	20.89	-0.1	0.7
		Ethepron	0.228	21.1%	0.066	-2.8	
		Glufosinate	0.216	17.1%	0.226	0.2	
		Glyphosate	0.510	18.5%	0.5101	0.0	
132 B		Phosphonic Acid	0.676	24.3%	0.88	1.2	
		2-CE	4.66	27.3%	4.04	-0.5	
		EO (sum)	2.55	27.7%	2.18	-0.6	
		Diquat	0.244	24.7%	0.224	-0.3	
		Nicotine	0.255	27.5%	0.255	0.0	
133 B		Paraquat	0.264	25.0%	0.21	-0.8	
		EO (sum)	2.55	27.7%	2.174	-0.6	

Table 4: False positive results in the EUPT-SRM16

Lab Code	Compound	MRRL	Analysed	Detected	Conc [mg/kg]	RL [mg/kg]	Judgement (preliminary)
3	AMPA	0.1	Yes	Yes	0.0631	0.1	Not FP (result < RL/MRRL)
32	Chlormequat-Chloride	0.01	Yes	Yes	0.012	0.01	FP
63	Fosetyl	0.02	Yes	Yes	0.042	0.01	FP
63	AMPA	0.1	Yes	Yes	0.186	0.1	FP
88	Ethylene oxide (EO)	0.02	Yes	Yes	0.346	0.025	FP
109	Ethylene oxide (EO)	0.02	Yes	Yes	0.981	0.005	FP
120	MPP (= MPPA)	0.02	Yes	Yes	0.031	0.02	FP
Results of labs based in countries outside the EU/EFTA zone + commercial labs based in EU but only entailing EO in their official scope							
34	MPP (= MPPA)	0.02	Yes	Yes	0.111	0.01	FP
77	Ethylene oxide (EO)	0.02	Yes	Yes	0.180	0.02	FP

Table 5: Target Pesticide List for the EUPT-SRM16 2021 (milled sesame seeds), update on 17.03.2021

MANDATORY ANALYTES			
Analytes Name	Residue definition for the PT and additional remarks	MACP/WD	MRRL (mg/kg)
Bromide	Expressed as bromide anion	MACP	2
Chlormequat chloride	Expressed as chlormequat chloride	MACP	0.01
Ethephon		MACP	0.04
Fosetyl	Expressed as fosetyl (free acid)	MACP	0.02
Glufosinate		MACP	0.02
Glyphosate		MACP	0.1
Mepiquat chloride	Expressed as mepiquat chloride	MACP	0.01
MPP	Glufosinate metabolite, also known as MPPA ; CAS-No.: 15090-23-0	MACP	0.02
N-Acetyl-glufosinate	Glufosinate metabolite	MACP	0.02
Phosphonic acid	Fosetyl metabolite, expressed as acid	MACP	0.1
OPTIONAL ANALYTES			
Analytes Name	Residue definition for the PT and additional remarks	MACP/WD	MRRL (mg/kg)
AMPA	Glyphosate metabolite; future RD	Monitoring-WD	0.1
Chlorate	Expressed as anion	Monitoring-WD	0.04
Diquat	Expressed as dication	Monitoring-WD	0.02
Ethylene oxide		Of actual concern	0.02
2-Chloroethanol		Of actual concern	0.05
Ethylene oxide (sum)	Sum of Ethylene oxide and 2-Chloroethanol expressed as ethylene oxide	Of actual concern	0.05
Matrine		Monitoring-WD	0.01
N-Acetyl Glyphosate	Glyphosate metabolite; future RD	Monitoring-WD	0.05
Nicotine		Monitoring-WD	0.01
Paraquat	Expressed as dication	Monitoring-WD	0.02
Trimesium	Expressed as cation	Monitoring-WD	0.01

MACP-Reg.: REGULATION (EU) 2020/585 of 27 April 2020

WD: Working document on pesticides to be considered for inclusion in the national control programmes to ensure compliance with maximum residue levels of pesticides residues in and on food of plant and animal origin; SANCO/12745/2013; 23–24 November 2020 rev. 12(2)

* Only mandatory (=compulsory) analytes will be considered in the scope-based classification, optional (=voluntary) analytes will not.

Please also refer to the EUPT General Protocol