Greece

Objective and design of the national control programme

The Hellenic Ministry of Rural Development and Food is the national authority responsible for coordinating the implementation of Regulation (EC) No 396/2005[1] according to national law on Pesticide marketing, sustainable use and other provisions No 4036/2012[2]. It is also responsible for the planning and coordination of the official controls for food of plant origin. The competent authorities responsible of the sampling of plant origin products are the Regional Centres of Plant Protection, Quality & Phytosanitary Control (RCPPQ&PC) of the Ministry of Rural Development and Food and the Directorates-General of Regional Rural Economy and Veterinary Medicine.

The authority responsible for the planning and coordination of the monitoring of processed foods is EFET (the Hellenic Food Authority) while the controls of pesticide residues in wine are organised by the General Chemical State.

The official laboratories that analysed the samples taken in 2023 were the Laboratory of Pesticide Residues of Benaki Phytopathological Institute, the Laboratory of Pesticide Residues of the Regional Centre of Plant Protection, Quality and Phytosanitary Control of Thessaloniki (RCPPQ&PC), the Laboratory of Pesticide Residues of the General Chemical State, the Veterinary Centre of Athens, the Laboratory of Serres and the Laboratory of Tripoli.

The control programmes for pesticide residues and the report of results of the national residue monitoring are published on the official website of the Hellenic Ministry of Rural Development and Food on an annual basis[3].

The national control programme of 2023 for pesticide residues (monitoring) as part of the Multi Annual Control Programme (MACP) has been established in accordance with the terms and conditions of Articles 26–35 of Regulation (EC) No 396/2005[4]. It is also noted that from 15 December 2022, Articles 26, 27, 28 (1, 2) and 30 of Regulation (EC) No 396/2005[5] no longer apply. The MACP is established according to Official Control Regulation and the new Regulations applicable since 15 December 2022 (Commission Delegated Regulation (EU) 2021/2244[6] and Commission Implementing Regulation (EU) 2021/1355[7]).

The national programme was based on several risk analysis criteria and parameters: the number of samples (domestic and imported) for each product, agricultural produce, cultivation area per culture, expected imports, results from previous years' monitoring programmes, the dietary intake contribution of each product, sampling location, the Community control programme, pesticides used in practice by the farmers, relevant RASFF notifications for pesticide residues, the personnel and analytical capacity of the

[1] Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC. OJ L 70, 16.3.2005, p. 1–16.
[2] https://www.minagric.gr/images/stories/en_docs/plant_protection/L4036_2012_EN.pdf
[3] https://www.minagric.gr/en/
[4] Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC. OJ L 70, 16.3.2005, p. 1–16.
[5] Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC. OJ L 70, 16.3.2005, p. 1–16.
[6] Commission Delegated Regulation (EU) 2021/2244 of 7 October 2021 supplementing Regulation (EU) 2017/625 of the European Parliament and of the Council with specific rules on official controls as regards sampling procedures for pesticides residues in food and feed. OJ L 453, 17.12.2021, p. 1–2.
[7] Commission Implementing Regulation (EU) 2021/1355 of 12 August 2021 on multiannual national control programmes for pesticides residues to be established by Member States. OJ L 291, 13.8.2021, p. 120–121.

official laboratories, recommendations from EFSA as well as the working document from the European Commission (SANCO 12745/2013) (as applicable). It aims to ensure compliance with MRLs and assess consumer exposure in order to achieve a high level of protection and application of GAP in all stages of production and harvest of agricultural products.

The responsibilities of the laboratories involved, regarding the number of samples of each commodity that should be analysed, and the areas of sampling were defined. The sampling was carried out by the regional and local authorities responsible for sampling.

The sampling strategy was based on the 'from farm to fork' rationale, taking into account the specialties of each region of the country. The sampling methods, necessary for carrying out such controls of pesticide residues, were those provided for in JMD 91972/2003- Commission Directive 2002/63/EC[8]. Samples were taken by domestic production and imports, proportionally, covering all stages of the supply chain (i.e. borders, storage and packing, trade of products of plant origin, retail and wholesale).

The official laboratories that analysing samples for pesticide residues are accredited and participate in the EU proficiency tests. The methods of analysis used by the laboratories comply the criteria set out in relevant provisions of EU law and other adopted technical guidelines.

The control programmes for pesticide residues and the report of results of the national residue monitoring are published on the official website of the Hellenic Ministry of Rural Development and Food on an annual basis[9].

Key findings, interpretation of the results and comparability with the previous year's results

In 2023, 4.705 samples were analysed in total by our authorities. Of those, 3684 samples were domestic (78.3%), 99 samples originated from the EU (2.1%) and 881 originated from non-EU countries (19%), while the origin of 41 samples was unknown (1%). The total number of samples analysed is higher than the number of samples considered by EFSA for the preparation of the annual report for pesticide residues. Composite/mixed samples were not taken into account in the report as these commodities were not included in Annex I of Regulation (EC) No 396/2005[10]

Of the samples analysed, 57,1% were free of quantified residues, 38,1% of samples contained quantified residues at or below the EU MRL and 4.8% exceeded the EU MRL. Considering measurement uncertainty (50%), this percentage of non-compliant samples is reduced to 2.33%. Compared with the last year's results the percentage of samples without detectable residues increased from 53,4% to 57% while the percentage of samples with detectable residues at or below the EU MRL decreased from 42% to 38%.

The non-compliance rate remained at similar levels in years 2023, 2022 (2,4% and 2,33% respectively), but is lower compared to years 2018-2020 which ranged from 3% to 4%.

The active substance deltamethrin was the most frequently detected active substance in domestic non-compliant samples. Also, among the domestic samples analysed, grape leaves were the most frequently non-compliant commodity. The active substance chlorpyrifos was

[8] Commission Directive 2002/63/EC of 11 July 2002 establishing Community methods of sampling for the official control of pesticide residues in and on products of plant and animal origin and repealing Directive 79/700/EEC. OJ L 187, 16.7.2002, p. 30–43.
[9] https://www.minagric.gr/en/
[10] Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC. OJ L 70, 16.3.2005, p. 1–16

the most frequently detected active substance in non-compliant samples from third countries.

The total number of pesticides analysed was approximately 550.

The main contributor of the non-compliance rate of samples from non-EU countries were cumin seeds.

Regarding organic samples, 179 out of 211 samples were below the LOQ (84.84%), 26 out of 211 samples contained quantified residues at or below the MRL (12.32%) and 6 out of 211 samples were non-compliant (2.84%).

A targeted sampling of sesame seeds continued in 2023. The total number of samples analysed was 137. Of those, 127 samples (92.7%) were below LOQ, 7 of samples contained quantified residues at or below the MRL (5.11%), 3 of samples (2.19%) exceeded the MRL and none (0%) was non-compliant. No ethylene oxide was detected.

Table 1: Summary results 2018–2023

Category	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023
Total number of samples	3,571	3,454	3,149	3,658	**3,655**	**4,705**
Number of samples without detectable residues	1,701 (48%)	1,724 (50%)	1,516 (48%)	1,885 (52%)	1,953 (53.43%)	**2685 (57.07%)**
Number of samples with detectable residues at or below the EU MRL	1,606 (45%)	1,531 (44%)	1,429 (45%)	1,575 (43%)	1,532 (41.92%)	**1793 (38.11%)**
Number of samples with residues exceeding the EU MRL	264 (7%)	199 (6%)	204 (7%)	198 (5%)	**170** (4.65%)	**227 (4.82%)**
Non-compliant samples	158 (4%)	119 (3%)	123 (4%)	115 (3%)	88 (2.4%)	**110 (2.33%)**

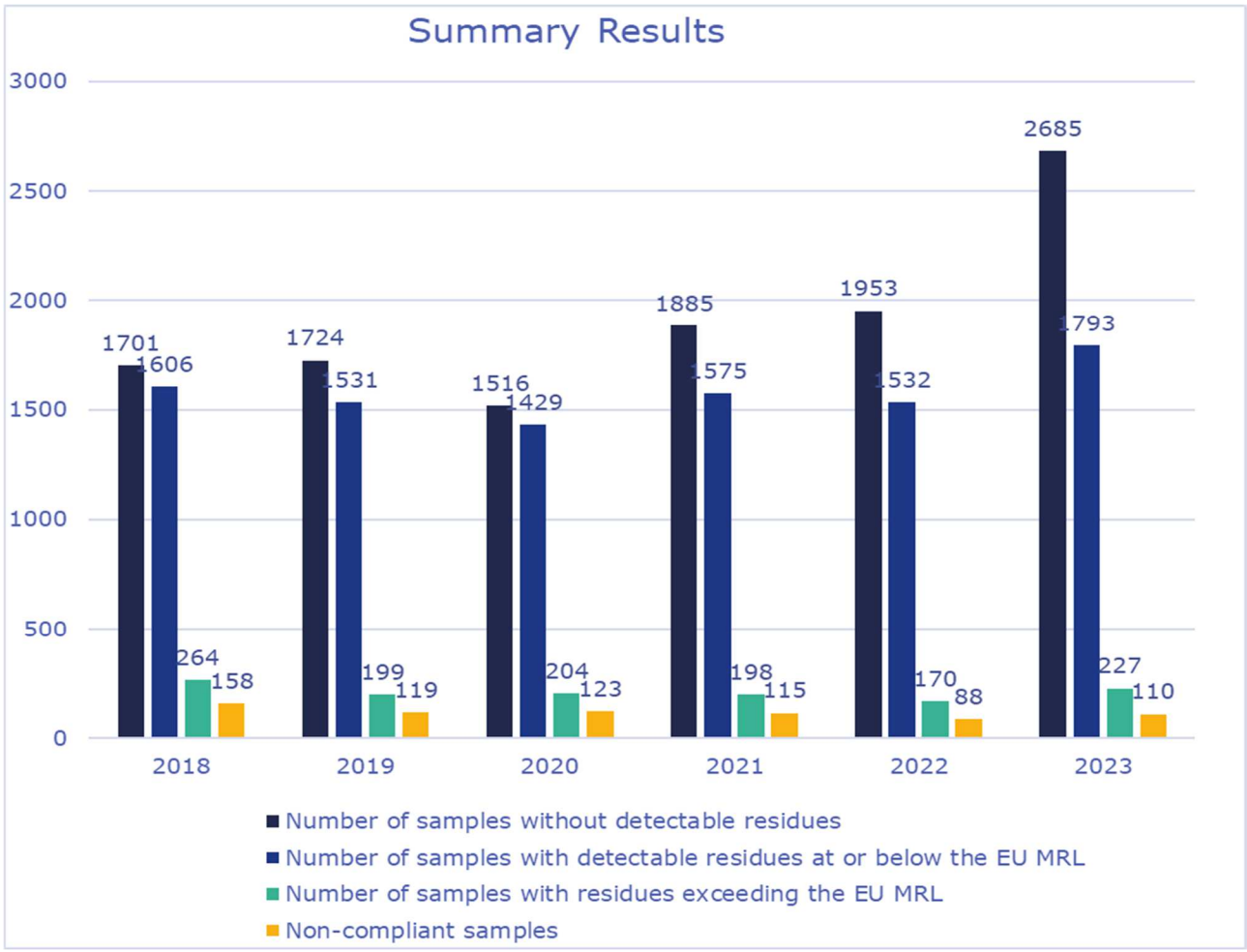

Figure 1: Summary results 2018-2023

Table 2: Summary results 2023 per origin

Origin of samples	Total no of samples	No of samples (%)			
		<LOQ	≥LOQ and ≤MRL	>MRL	
				Compliant and non-compliant	Non-compliant
EU	3.783	2.131 (56,33%)	1.494 (39.49%)	158 (4.18%)	73 (1,93%)
Non-EU	881	523 (59,36%)	289 (32.80%)	69 (7,83%)	37 (4,20%)
Unknown	41	31 (75,61%)	10 24,39%)	0 0%	0 0%
Total	**4.705**	**2.685 (57,07%)**	**1.793 (38,11%)**	**227 (4,82%)**	**110 (2,33%)**

Table 3: Summary results 2023 per type of product

Product	No of samples				
	Total no of samples	<LOQ	≥LOQ and ≤MRL	>MRL	
				Compliant and non-compliant	Non-compliant
Animal products	491	491	0	0	0
Baby food	17	16	1	0	0
Cereals	179	122	44	13	8
Fruit, vegetables and nuts	3.408	1.588	1.642	178	84
Other plant origin products	610	468	106	36	18
Total	4705	2685	1793	227	110

Table 4: Summary results 2023 per origin and sampling strategy

Sampling strategy	Origin of samples	Total no of samples	<LOQ	≥LOQ and ≤MRL	>MRL	
					Complaint and non-compliant	Non-compliant
Random sampling	EU	3.235	1.646 (50,88%)	1.440 (44,51%)	149 (4,61%)	68 (2,1%)
	Non-EU	388	255 (65.72%)	109 (28.1%)	24 (6.19%)	7 (1,81%)
	Unknown	41	31 (75,61%)	10 (24,39%)	0 (0%)	0 (0%)
Total no of random samples		3.664	1,932 (52,73%)	1,559 (42,55%)	173 (4,72%)	75 (2,05%)
Selective sampling	EU	530	474 (89,5%)	50 (9,4%)	6 (1,1%)	4 (0,75%)
	Non-EU	56	16 (28,57%)	28 (50%)	12 (21,43%)	6 (10,71%)
	Unknown	0	0	0	0	0
Total no of selective samples		586	490 (83,62%)	78 (13,31%)	18 (3,07%)	10 (1,71%)
Suspect sampling	EU	18	11 (61,11%)	4 (22,22%)	3 (16,67%)	1 (5,56%)
	Non-EU	437	252 (57,67%)	152 (34,78%)	33 (7,55%)	24 (5,49%)
	Unknown	0	0	0	0	0
Total no of suspect samples		455	263 (57,80%)	156 (34,29%)	36 (7,91%)	25 (5,49%)
Total number of samples		4.705	**2.685 (57,07%)**	**1.793 (38,11%)**	**227 (4,82%)**	**110 (2,33%)**

Table 5: Summary results 2023 for sesame seeds/tahini

Commodity	**Origin of samples**	**Total no of samples**	**<LOQ**	**≥LOQ and ≤MRL**	**>MRL**	
					Compliant and non-compliant	**Non-compliant**
Sesame seeds/tahini	EU	0	0	0	0	0
	non-EU	137	127 (92,7%)	7 (5,11%)	3 (2,19%)	0 (0%)
	Unknown	0	0	0	0	0
Total no of samples		**137**	**127 (92,7%)**	**7 (5,11%)**	**3 (2,19%)**	**0 (0%)**

Non-compliant samples: possible reasons, acute reference dose exceedance and actions taken

Possible reasons for non-compliance

Table 6: Reasons for MRL exceedance

Reasons for MRL non-compliance	Pesticide[a]/food product	Frequency[b]	Comments*
GAP not respected: use of a pesticide not approved in the EU[c]	Celeries/linuron	1	
	Chards/indoxacarb	1	Exceedance of the ARfD
	Beetroot leaves/indoxacarb	2	
	Wheat flour/ethylene oxide	2	
	Grape leaves/dithiocarbamates	1	Use of the approved a.s. ziram cannot be excluded
	Grape leaves/fenoxycarb	1	
	Grape leaves/imidacloprid	1	
	Nectarin/Imidacloprid	1	
	Olive oil/acrinathrin	1	
	Olive oil/phosmet	1	
	Oranges/chlorpyrifos	2	
	Peaches/bifenthrin	1	
	Peaches/chlorpyrifos	1	
	Pear/imidacloprid	1	
	Potatoes/imidacloprid	1	
	Tomatoes/chlorpyrifos	1	
	Tomatoes/chlorfenapyr	2	
GAP not respected: use of an approved pesticide not authorised on the specific crop[c]	Beans (dry)/pirimiphos methyl	1	
	Beans with pods/abamectin	1	Exceedance of the ARfD
	Beans with pods/clofentezine	1	Expiry of approval 11.11.2023
	Beas with pods/ spinetoram	1	Expiry of approval 30.6.2024
	Beetroot leaves/metrafenone	2	
	Beetroot leaves/pyriproxyfen	1	
	Beetroot leaves/tebuconazole	1	
	Beetroot leaves/spinetoram	1	Expiry of approval 30.6.2024
	Celery leaves/fluvalinate	1	

Chamomile/pirimiphos methyl	1	
Chards/propyzamide	1	
Chards/pyriproxyfen	1	
Cherries/flupyradifurone	1	
Chickpeas/pirimiphos methyl	1	
Courgettes/metalaxyl	2	
Courgettes/fosthiazate	2	
Cucumber/formetanate	2	Exceedance of the ARfD
Figs/azoxystrobin	1	
Gherkins/formetanate	1	
Grape leaves/dimethomorph	3	Expiry of approval 20.5.2024
Grape leaves/mandipropamid	1	
Grape leaves/pyraclostrobin	2	
Grape leaves/spirotetramat	1	Expiry of approval 30.4.2024
Grape leaves/trifloxystrobin	4	
Grape leaves/tebuconazole	1	
Grape leaves/spiroxamine	6	
Grape leaves/penconazole	1	
Grape leaves/fluopyram	3	
Grape leaves/abamectin	1	
Grape leaves/boscalid	2	
Grape leaves/cyprodinil	4	
Grape leaves/difenconazole	2	
Grape leaves/etofenprox	1	
Grape leaves/metalaxyl & metalaxyl M	3	
Grape leaves/metrafenone	1	
Grape leaves/spinetoram	1	
Grape leaves/fluvalinate	1	
Grape leaves/myclobutanil	2	
Grape leaves/fludioxonil	1	
Okra/flonicamid	1	
Okra/bupirimate	1	

	Olive oil/cypermethrin	1	
	Rice flour/pirimiphos-methyl	1	
	Spinach/deltamethrin	4	
	Sweet pepper/flonicamid	1	
	Sweet pepper/fluvalinate	1	
	Sweet pepper/cyflumetofen	1	
	Sweet pepper/formetanate	1	
	Sweet pepper/mefentrifuconazole	1	
	Table grapes/propamocarb	1	
GAP not respected: use of an approved pesticide, but application rate, number of treatments, application method or PHI not respected [(c)]	Beetroot leaves/fluvalinate	2	
	Beetroot leaves/deltamethrin	2	
	Celery leaves/cypermethrin	1	
	Chards/deltamethrin	3	
	Chards/spinetoram	1	
	Chards/fluvalinate	1	
	Cherries/deltamethrin	1	
	Potato/fosthiazate	1	
	Potato/lambda-cyhalothrin	1	
	Sweet pepper/acetamiprid	1	Exceedance of the ARfD
	Table grapes/tebuconazole	1	Exceedance of the ARfD
	Table grapes/spinetoram	1	
	Table olives/pyrclostrobin	1	
	Wheat flour/pirimiphos methyl	1	
Use of a pesticide on food imported from non-EU countries for which no import tolerance was set/unknown reason[(d)]	Beans (dry) (Black eyed beas)/chlorpyrifos	1	Origin MG (RASFF 2023.3435)
	Chamomile/chlorpyrifos	1	Origin AL
	Cumin seed/acetamiprid	4	Origin IN
	Cumin seed/clothianidin	1	Origin IN
	Cumin seed /chlorpyrifos	4	Origin IN (RASFF 2023.1014) (RASFF 2023.1092)

		(RASFF 2023.0614) (RASFF 2024.1461)
Cumin seed/carbendazim & benomyl	2	Origin IN
Cumin seed/flonicamid	1	Origin IN (RASFF 2023.1014)
Cumin seed/metalaxyl and metalaxyl-M	1	Origin IN
Cumin seed/thiamethoxam	4	Origin IN
Cumin seed/tricyclazole	3	Origin IN
Curry powder/chlorpyrifos	1	Origin IN (RASFF 2023.6706)
Dried vine fruits (raisins)/buprofezin	1	Origin IN (RASFF 2023.1013)
Dried vine fruits (raisins)/chlorpyrifos	1	Origin IN (RASFF 2023.1013)
Dried vine fruits (raisins)/ethion	1	Origin IN (RASFF 2023.1013)
Dried vine fruits (raisins)/fluxapyroxad	1	Origin IN (RASFF 2023.1013)
Dried vine fruits (raisins)/propamocarb	1	Origin IN (RASFF 2023.1014)
Pomegranates/imidacloprid	1	Origin EG
Lemon/buprofezin	3	Origin TR (RASFF 2023.6974) (RASFF 2023.7188) (RASFF 2023.7463)
Mandarin/dimethoate	1	Origin EG (RASFF 2023.8018)
Mandarin/chlorpyrifos	2	Origin EG (RASFF 2023.6222)
Oranges/chlorpyrifos	1	Origin EG (RASFF 2023.0727)
Pomegranates/acetamiprid	1	Origin TR (RASFF 2023.7845)
Potatoes/imidaclorpid	3	Origin EG
Rice/tricyclazole	1	Origin IN
Rice/chlorpyrifos	3	Origin 1 IN (RASFF 2024.0394), Origin 2PK (RASFF 2023.8391) (RASFF 2023.8760)
Rice/profenofos	1	Origin PK (RASFF 2023.8760)
Spearmint/chlorpyrifos	2	Origin EG
Spearmint/dimethoate	1	Origin EG
Strawberries/cyflumetefen	1	Origin AL (RASFF 2023.8602)
Chilli /buprofezin	1	Origin IN (RASFF 2023.2012)
Chilli /chlorpyrifos	1	Origin IN (RASFF 2023.2012)
Chili/ethion	1	Origin IN (RASFF 2023.2012)
Chilli /fenpropathrin	1	Origin IN (RASFF 2023.2012)
Chilli /fipronil	1	Origin IN (RASFF 2023.2012)
Sweet peppers/tricyclazole	1	Origin IN

	Sweet pepper/buprofezin	1	Origin TR (RASFF 2023.1505)
	Tomatoes/2-phenylphenol	1	Origin AL
Other (use of a pesticide on food imported from a non-EU country with exceedance of the acute reference dose)	See above information		

*Domestic samples unless another origin is specified (ISO country 2-digit code).
**Illegal use of the approved active substance (ziram) cannot be excluded.
(a) Report name as specified in the MatrixTool.
(b) Number of cases (these numbers do not correspond to number of samples).
(c) Applicable only for food products produced in the EU.
(d) For imported food only.

Actions taken

In a case of an MRL exceedance, before any administrative and punitive enforcement action is taken, a default analytical uncertainty of 50% is subtracted from the measured value. If this figure still exceeds the MRL, this sample is non-compliant and enforcement action relevant to the case is taken. Risk assessment of non-compliant samples is carried out by the Directorate of Plant Production Protection (Department of Plant Protection Products). RASFF notifications were prepared according to EU Regulations taking into account the results of the risk assessment and the instructions of the RASFF WI 2.2 Guidelines. Notifications were issued for MRL exceedance not only due to the health-based guidance values (HBGVs) being exceeded but also for active substances without established HBGVs due to health concerns and/or for approved active substances with use limited to non-edible crops (for example buprofezin). RASFF notifications can be found at https://webgate.ec.europa.eu/rasff-window.

The batches of products with MRL exceedance were set under official detention and were destroyed or re-dispatched to the country of origin. Next, placement on the market of a batch of the same origin was not allowed unless a laboratory analysis was conducted, and the results showed conformity with the MRLs.

Sanctions were imposed on producers of non-compliant samples in accordance to national laws. If the producer (or farmer) of the lot of the product was unknown, the control authority called the distributors (trader, wholesaler, retailer, etc.) to provide details (evidence) on the origin of the products. If traceability was lost, sanctions were imposed on the traders.

For imported products, sanctions were imposed on importers.

For samples taken under import control regulations (Commission Implementing Regulation (EU) 2019/1793[1]), a border rejection decision was taken for non-compliant samples. RASFF notifications were issued for samples when a risk to consumers was identified or in the case of potential risks as described above.

[1] Commission Implementing Regulation (EU) 2019/1793 of 22 October 2019on the temporary increase of official controls and emergency measures governing the entry into the Union of certain goods from certain third countries implementing Regulations (EU) 2017/625 and (EC) No 178/2002 of the European Parliament and of the Council and repealing Commission Regulations (EC) No 669/2009, (EU) No 884/2014, (EU) 2015/175, (EU) 2017/186 and (EU) 2018/1660. OJ L 277, 29.10.2019, p. 89–129.

Quality assurance

Table 7: Laboratory participation in the control programme

Country	Laboratory		Accreditation	Participation in proficiency tests or inter-laboratory tests
	Name	Date	Body	
Hellas	Benaki Phytopathological Institute, Pesticides Residues Laboratory	09/07/2002	ESYD (Hellenic Accreditation System S.A.)	EUPT-SRM18, EUPT-FV25, EUPT-CF17, EUPT-AO18, COI-PT 2023
	Regional Centre of Plant Protection, Quality & Phytosanitary Control of Thessaloniki	ACCREDITED, ISO 17025 since 08/09/2009	ESYD (Hellenic Accreditation System S.A.)	EUPT-FV25, EUPT-CF17
	IAPR/DG-GCSL/A' Chemical Service of Athens/Department B'	ACCREDITED, ISO 17025, 2009 up to date	ESYD	EUPT-SRM18, EUPT-FV25, EUPT-CF17, EUPT-AO18, FAPAS PT 19364 COI-PT 2023 COI CEM/2023 – IOCCHEM 2022
		ACCREDITED, ISO 17025, 1998-2009	UKAS	
	Veterinary Centre of Athens (E02)	Accreditation number 05-5	ESYD	
	Laboratory of Tripoli (E16)	Accreditation number 05-5	ESYD	
	Laboratory of Serres (E12)	Accreditation number 482-4	ESYD	

Processing factors

The processing factors applied were those characterised as indicative/reliable in the European database of processing factors for pesticides in food as well as generic dehydration factors. In the absence of indicative/reliable pf or other data, a default pf of one ("1") was considered