
PESTICIDE RESIDUE CONTROL RESULTS

NATIONAL SUMMARY REPORT

Country: HELLAS

Year: 2019

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1. Country: Hellas

1. 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) 396/2005. It is also responsible for the planning and the coordination of the official controls for plant origin food. The authority responsible for the planning and the coordination of the monitoring of processed foods is EFET (Hellenic Food Authority).

The competent authorities responsible of the sampling are the Regional Centres of Plant Protection and Quality Control (RCPP&QC) of the Ministry of Rural Development and Food and the Directorates General of Regional Rural Economy and Veterinary Medicine.

The official laboratories which analyzed the samples taken in 2019 were the Laboratory of Pesticides Residues of Benaki Phytopathological Institute (BPI), the Laboratory of Pesticide Residues of the Centre of Plant Protection and Quality Control of Thessaloniki (RCPP&QC) and the laboratory of Pesticide Residues of the General Chemical State.

<http://www.minagric.gr/index.php/en/citizen-menu/foodsafety-menu>

<http://www.minagric.gr/index.php/el/for-farmer-2/crop-production/fytoprostasiamenu/ypoleimatafyto>

National control program of 2019 for pesticide residues (monitoring) as part of the Multi Annual Control Program (EU-MACCP) has been established according to terms and conditions of Articles 26-35 of Regulation (EC) No 396/2005.

The program was based on several risk analysis criteria and parameters: number of samples (domestic and imported) for each product, agricultural produce, cultivation area per culture, expected imports, results from previous years' monitoring programs, dietary intake contribution of each product, sampling location, community control program, pesticides used in practice by the farmers, relevant RASFF notifications for pesticide residues, personnel and analytical capacity of the official laboratories, recommendations from EFSA. It aims at ensuring compliance with maximum levels and assessing consumer exposure in order to achieve a high level of protection and application of good agricultural practice 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 analyzed and the areas of sampling were defined. The responsible for the EU co-ordinated program laboratories were clearly stated. The sampling was carried out by the responsible for sampling regional and local authorities.

Sampling strategy was based on "from the farm to the 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-Directive 2002/63/EC. Samples were taken by domestic production and imports, proportionally, covering points of collection, storage, packing and trade of products of plant origin.

Furthermore, a significant number of selective samples was taken by the competent authorities responsible of the sampling.

The official laboratories, analyzing samples for pesticide residues are accredited and participate in the Community Proficiency Tests. The methods of analysis used by the laboratories comply with the criteria set out in relevant EU law provisions and other adopted technical guidelines.

2. Key findings, interpretation of the results and comparability with the previous year results

3454 samples were analysed in total. 2788 samples were domestic (80.72%), 131 samples originated from EU (3.79%), 491 originated from third countries (14.22%) while the origin of 44 samples was unknown (1.27%).

49.91% of samples were free of quantifiable residues, 44.33% of samples contained quantifiable residues at or below Mrl, 5.76% of samples contained residues exceeding EU Mrls and 3.45% of samples were non compliant (contained residues exceeding EU Mrls taking into account the measurement uncertainty).

The percentage of samples containing quantifiable residues at or below Mrl remains constant for the fourth consecutive year.

The percentage of samples exceeding the Mrls and the percentage of non compliant samples have decreased compared to last year and are comparable to the results of 2017.

For random sampling, the percentage of non compliant samples was 2.61%. For selective sampling the percentage of non compliant samples was 5,95% and for suspect sampling, the percentage of non compliant samples was 10%.

The percentage of samples which exceeded numerically the Mrls was 5.20% for the domestic samples, 5.34% for EU samples and 9.57% for third countries while the percentage of non compliant samples was 2.98% for domestic samples, 3.82% for EU samples and 6.31% for third countries' samples.

Among the domestic samples analysed, grape leaves and potatoes were the most frequently non compliant products. From third countries the most frequently non compliant products were lemons (various actives substances), tomatoes (mostly chlorfenapyr) and pomegranates (various active substances).

Chlorpyrifos was the most frequently found pesticide in non compliant samples (as in 2017 and 2018) primarily because of incorrect GAP application and secondary because of a not authorized use.

114 samples were organic out of which 23 samples were cereals, 1 sample was baby food, 76 samples were fruits, vegetables and nuts, 14 samples were other products, and 4 samples were processed commodities.

87.72% of the organic samples contained no detectable residues, 10.53% of organic samples contained residues below Mrls and 1.75% of the organic samples were detected with residues numerically exceeding the Mrls. Taking into account the measurement uncertainty, all samples were compliant with the Mrls.

Table 1: Summary results 2015-2019

Category	Year 2015	%	Year 2016	%	Year 2017	%	Year 2018	%	Year 2019	%
Total number of samples	2425	100.00	2287	100.00	2623	100.00	3571	100.00	3454	100.00
Number of samples without detectable residues	1545	63.71	1180	51.60	1307	49.83	1701	47.63	1724	49.91
Number of samples with detectable residues at or below EU MRL	789	32.54	1016	44.42	1160	44.22	1606	44.97	1531	44.33
Number of samples with residues exceeding EU Mrls	91	3.75	91	3.98	156	5.95	264	7.39	199	5.76
Non compliant samples	58	2.39	53	2.32	90	3.43	158	4.42	119	3.45

Table 2: Summary results 2019 per type of product (surveillance and enforcement)

Products	Samples	Residues below LOQ	%	Residues between LOQ and MRL	%	Exceeding MRL	%	Non Compliant	%
Animal products	37	37	100.00	0	0	0	0	0	0.00
Baby food	10	10	100.00	0	0	0	0	0	0.00
Cereals (including processed products)	139	100	71.94	37	26.62	2	1.44	1	0.72
Other products (including processed products)	235	174	81.69	29	13.62	10	4.69	3	1.41
Sum of fruits and nuts, vegetables, other plant products	3033	1381	45.53	1465	48.30	187	6.17	115	3.79
Total	3454	1724	49.91	1531	44.33	199	5.76	119	3.45

Table 3: Summary results 2018 (surveillance and enforcement)

Products	Samples	Residues below LOQ	%	Residues between LOQ and MRL	%	Exceeding MRL	%	Non Compliant	%
Animal products	37	37	100.0	0	0.0	0	0.0	0	0.0
Baby food	34	34	100.0	0	0.0	0	0.0	0	0.0
Cereals	67	45	67.1	18	26.9	4	6.0	3	4.5
Processed products	235	166	70.6	52	22.1	17	7.2	9	3.8
Sum of fruits and nuts, vegetables, other plant products	3198	1420	44.4	1534	48	244	7.6	146	4.6
Total	3571	1702	47.7	1604	44.9	265	7.4	158	4.4

Table 4: Summary results 2019 for random and selective sampling

Products	Samples	Residues below LOQ	%	Residues between LOQ and MRL	%	Exceeding MRL	%	Non Compliant	%
Animal products	37	37	100.00	0	0.00	0	0	0	0
Baby food	10	10	100.00	0	0.00	0	0	0	0
Cereals	136	99	72.79	36	26.47	1	0.74	0	0
Fruits and nuts	1178	392	33.27	733	62.22	53	4.50	26	2.21
Other plant products	229	193	84.28	26	11.35	10	4.37	3	1.31
Vegetables	1755	946	53.90	693	39.49	116	6.61	79	4.50
Total	3345	1677	50.13	1488	44.48	180	5.21	108	3.23

Table 5: Summary results 2018 for random and selective sampling

Products	Samples	Residues below LOQ	%	Residues between LOQ and MRL	%	Exceeding MRL	%	Non Compliant	%
Animal products	37	37	100.0	0	0.0	0	0.0	0	0.0
Baby food	34	34	100.0	0	0.0	0	0.0	0	0.0
Cereals	128	76	59.4	38	29.7	14	10.9	8	6.3
Fruits and nuts	1118	337	30.1	738	66.0	43	3.8	22	2.0
Other plant products	164	146	89.0	13	7.9	5	3.0	1	0.6
Vegetables	1895	1002	52.9	733	38.7	160	8.3	97	5.1
Total	3376	1632	48.3	1522	45.1	222	6.6	128	3.8

Table 6: Summary results 2019 for enforcement samples (suspect samples)

Products	Samples	Residues below LOQ	%	Residues between LOQ and MRL	%	Exceeding MRL	%	Non Compliant	%
Animal products	0	0	0	0	0	0	0	0	0
Baby food	0	0	0	0	0	0	0	0	0
Cereals	3	1	33.33	1	33.33	1	33.33	1	33.33
Fruits and nuts	28	2	7.14	16	57.14	10	35.71	7	25.0
Other plant products	6	3	50.0	3	50.0	0	0	0	0
Vegetables	72	41	56.95	23	31.94	8	11.11	3	4.17
Total	109	47	43.12	43	39.45	19	17.43	11	10.10

Table 7: Summary results 2018 for enforcement samples (suspect samples)

Products	Samples	Residues below LOQ	%	Residues between LOQ and MRL	%	Exceeding MRL	%	Non Compliant	%
Animal products	0	0	0	0	0	0	0	0	0
Baby food	0	0	0	0	0	0	0	0	0
Cereals	5	4	80	1	20	0	0	0	0
Fruits and nuts	46	4	8.7	30	65.2	12	26.1	9	19.6
Other plant products	16	7	43.8	7	43.8	2	12.5	1	6.3
Vegetables	128	55	43	44	34.4	29	22.7	20	15.6
Total	195	70	35.9	82	42.1	43	22.1	30	15.4

3. Non-compliant samples: possible reasons. ARfD exceedances and actions taken

3.1. Possible reasons for non compliance

Table 8: Reasons for MRL exceedances

Reasons for MRL non-compliance	Pesticide/food product ^(a)	Frequency ^(b)	Comments
GAP not respected: use of a pesticide not approved in the EU ^(c)	clothianidin / Grape leaves	1	
	thiamethoxam / Grape leaves	1	
	carbofuran / Strawberries	1	
	chlorfenapyr / Tomatoes	2	origin: Italy
	linuron / Celery leaves	1	
GAP not respected: use of an approved pesticide not authorised on the specific crop ^(c)	formetanate / Cucumbers	2	
	thiophanate-methyl / Cucumbers	3	
	boscalid / Grape leaves	5	
	dimethomorph / Grape leaves	6	
	pyraclostrobin / Grape leaves	3	
	cyprodinil / Grape leaves	3	
	pyrimethanil / Grape leaves	2	
	acetamiprid / Grape leaves	1	
	etoxazole / Grape leaves	1	
	penconazole / Grape leaves	1	
	tebuconazole / Grape leaves	2	
	cyflufenamid / Grape leaves	1	
	trifloxystrobin / Grape leaves	3	
	metalaxyl and metalaxyl-M / Grape leaves	2	
	propiconazole / Grape leaves	1	
	cyhalothrin, lambda / Grape leaves	1	
	famoxadone / Grape leaves	1	
	fludioxonil / Grape leaves	1	
	flupyradifurone / Grape leaves	1	
	fluxapyroxad / Grape leaves	1	
	chlorpyrifos / Kiwi fruits	1	
	dimethoate / Sweet peppers/bell peppers	1	
	omethoate / Sweet peppers/bell peppers	1	metabolite of dimethoate
	chlorpyrifos / Spinaches	2	
	ethoprophos / Carrots	1	
	propamocarb / Carrots	1	
	ethephon / Sweet peppers/bell peppers	1	
	boscalid / Pomegranates	2	
	flonicamid / Teas	1	
	famoxadone / Sweet peppers/bell peppers	1	
	indoxacarb / Spring onions/green onions and Welsh onions	1	
	chlorpyrifos / Celeriacs/turnip rooted celeriacs	1	
	metalaxyl / Cherries (sweet)	1	
fluopyram / Kiwi fruits	1		
tebuconazole / Kiwi fruits	1		
thiacloprid / Mandarins	1		
etofenprox / Plums	1		

	etofenprox / Quinces	1	
	sulfoxaflor / Roman rocket/rucola	2	
	triadimenol / Roman rocket/rucola	2	
	formetanate / Roman rocket/rucola	1	
	dodine / Spinaches	1	
	thiophanate-methyl / Spinaches	2	
	dimethoate / Spinaches	1	
	omethoate / Spinaches	2	metabolite of dimethoate
	fluvalinate, tau- / Spinaches	1	
	kresoxim-methyl / Spring onions/green onions and Welsh onions	1	
	acetamiprid / Greek mountain tea	1	
	carbendazim /benomyl / Greek mountain tea	1	metabolite of thiophanate methyl (see below)
	thiophanate-methyl / Greek mountain tea	1	
	myclobutanil / Greek mountain tea	1	
	chlorpyrifos / Celery leaves	3	
	penconazole / Celery leaves	1	
GAP not respected: use of an approved pesticide, but application rate, number of treatments, application method or PHI not respected			
	chlorpyrifos / Cucumbers	4	
	chlorpyrifos / Sweet peppers/bell peppers	2	
	methomyl and thiodicarb / Sweet peppers/bell peppers	1	
	oxamyl / Sweet peppers/bell peppers	1	
	chlorpyrifos / Potatoes	7	
	fosthiazate / Potatoes	3	
	chlorantraniliprole / Potatoes	5	
	chlorpyrifos / Head cabbages	1	
	dimethoate / Mandarins	1	
	chlorpyrifos / Apples	2	
	cypermethrin / Celeriacs/turnip rooted celeries	1	
	chlorpyrifos / Cherries (sweet)	1	
	dimethoate / Cherries (sweet)	1	
	forchlorfenuron / Kiwi fruits	1	
	dimethoate / Lemons	1	
	chlorpyrifos / Lettuces	2	
	dimethoate / Lemons	1	
	omethoate / Tomatoes	1	metabolite of dimethoate origin: Italy – not authorised on the specific crop <i>or</i> authorised but application rate, number of treatments, application method or PHI not respected
	pirimiphos-methyl / Tomatoes	1	origin: Poland – not authorised on the specific crop <i>or</i> authorised but application rate, number of treatments,

			application method or PHI not respected
Use of pesticide according to authorised GAP: unexpected slow degradation of residues			
Cross contamination: spray drift or other accidental contamination			
Contamination from previous use of a pesticide: uptake of residues from the soil (e.g. persistent pesticides used in the past)			
Residues resulting from other sources than plant protection product (e.g. biocides, veterinary, drugs, bio fuel)			
Natural occurrence (e.g. dithiocarbamates in turnips)			
Changes of the MRL			
Use of a pesticide on food imported from third countries for which no import tolerance was set ^(d)			
Unknown			
	tricyclazole / Rice white	1	India
	chlorfenapyr / Tomatoes	6	Albania
	flusilazole / Lemons	1	Egypt
	cyfluthrin / Lemons	1	Egypt
	lufenuron / Lemons	1	Egypt
	diazinon / Lemons	1	Egypt
	chlorfenapyr / Sweet peppers/bell peppers	1	Albania
	chlorpyrifos / Apples	1	Republic of North Macedonia
	imazalil / Pomegranates	2	Turkey
	prochloraz / Pomegranates	1	Turkey
	acetamiprid / Pomegranates RASFF NC19.3817	1	Turkey
	boscalid / Pomegranates RASFF NC19.3817	1	Turkey
	thiacloprid / Pomegranates RASFF NC19.3817	1	Turkey
	buprofezin / Lemons RASFF NC19.3820, NC19.4045, NC19.4072, NC19.4027, NC19.4004	6	Turkey
	methomyl / Strawberries	1	Moldova
	methomyl and Thiodicarb / Strawberries	1	Moldova
	formetanate / Sweet peppers/bell peppers	1	Republic of North Macedonia
	buprofezin / Tomatoes	2	Albania
	acetamiprid / Chamomile	1	Egypt
	chlorpyrifos / Chamomile	1	Egypt

Other (Use of a pesticide on food imported from third country with exceedance of the ARfD)			
	dimethoate - Omethoate / Apples RASFF 2019.3991	1	Albania
	chlorpyrifos / Courgettes RASFF 2019.3525	1	Albania
	chlorpyrifos / Sweet peppers/bell peppers RASFF 2019.3526, 2019.3686	2	Albania
	prochloraz / Pomegranates RASFF 2019.0581	1	Turkey
	chlorfenapyr / Tomatoes RASFF 2019.1793	1	Italy

- (a): Report name as specified in the MatrixTool
 (b): Number of cases
 (c): Applicable only for food products produced in the EU
 (d): For imported food only

3.2. ARfD exceedances

Table 9: RASFF issued in 2019 for food products showing a risk for consumers

Food products	Pesticide residue	Number	Origin	Context
apples	dimethoate/omethoate	1	Albania	RASFF 2019.3991
peppers	chlorpyrifos	2	Albania	RASFF 2019.3526 2019.3686
pomegranates	prochloraz	1	Turkey	RASFF 2019.0581
courgettes	chlorpyrifos	1	Albania	RASFF 2019.3525
tomatoes	chlorfenapyr	1	Italy	RASFF 2019.1793

3.3. 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 on non compliant samples is carried out by the Directorate of Plant Production Protection (Department of Plant Protection Products). RASFF notifications were sent according EU Regulations taking into account the results of the risk assessment and the instructions of the RASFF WI 2.2. Guidelines.

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 in the market of other batches of same origin was not allowed unless, prior to marketing, a second laboratory analysis was conducted and the results showed conformity with the respected MRLs.

Sanctions were imposed to producers of non compliant samples according to national laws. If the producer (or farmer) of the lot of the product was unknown, the control authority called the distributor/s (traders, wholesaler, retailer etc) to provide elements (evidence) about the origin of the products. If traceability was lost, sanctions were imposed to the traders.

For imported products sanctions were imposed to importers.

For samples taken according to Import Control Regulations (such as Regulation (EC) 669/2009 and Regulation (EC) 1793/2019), a border rejection decision was taken for non compliant samples and a RASFF notification was issued.

4. Quality assurance

Table 10: Laboratories participation in the control program

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-FV-21 EUPT-AO-14 EUPT-CF-13 EUPT-SRM-14 COI-PT19
Hellas	Regional Centre of Plant Protection, Quality and Phytosanitary Control of Thessaloniki	08/09/2009	ESYD	EUPT-FV 21, EUPT-CF 13
Hellas	General Chemical State	ACCREDITED, ISO 17025, 2009-2018	ESYD	EUPT-FV-21, EUPT-AO-14, EUPT-CF-13, EUPT-SRM-14, COI-PT19
		ACCREDITED, ISO 17025, 1998-2009	UKAS	

5. Processing factors

The processing factors applied were based on the former EU multiannual control programme for pesticide residues.