

Pesticide Residue Control Results

“National summary report”

Country *Cyprus*

Year: *2020*

National competent authority/organisation:

Pesticides Residues Laboratory of the State General Laboratory of Ministry of Health

Web address where the national annual report is published:

www.moh.gov.cy/sgl

1. Objective and design of the National Control Programme

The Ministry of Health is the competent authority for the enforcement of the Pesticide Residues (PR) Legislation and the execution of the national monitoring and surveillance programs. The enforcement of Legislation and sampling is allocated to the Department of Medical and Public Health Services (MPHS). For products of animal origin, sampling is carried out by the Veterinary Services of Ministry of Agriculture, Rural Development and Environment.

The Pesticide Residues Lab (PR-SGL) of the State General Laboratory, a department of the Ministry of Health, is the Official Laboratory for the Monitoring & Surveillance of PR in Food of Plant and Animal Origin. The PR-SGL Lab in cooperation with the MHPS design and implement the monitoring program for both the local market and imports. The sampling is focused at the key points of food chain: market, import, processing, primary storage producers, etc.

Organic products are controlled under a monitoring control plan designed by the PR-SGL Lab in cooperation with the Department of Agriculture (DA) of Ministry of Agriculture, Rural Development and Environment. The results are evaluated by the competent authority in accordance to the provisions of the Regulation on organic products.

The sampling regime is based on a combination of “at random” sampling and target oriented sampling focusing towards problematic pesticides/food combination. This combination is, in a way, bias towards problematic products and might end up with higher violation rates. Nevertheless, it can provide higher degree of consumer protection and cost-effectiveness. Main criteria used in the sampling design are: EU coordinated program, violations from previous years, information from RASFF, consumption rate especially for children and the needs of imports control.

It is noted that, due to the pandemic Covid 19, the 2020 monitoring plan has not been fully implemented. Two product categories of the Community control plan (cauliflowers and pears) and 102 samples of the national monitoring plan have not been analyzed, as sampling could not be carried out due to other pandemic-related activities.

The increase in the number of compounds monitored is a continuous process and is mainly defined by the requirements of the EU coordinated program. The provisions of the SANTE working document on the inclusion of pesticides in the national control plan as well as the pesticides included in the EUPTs are also taken into account. It should be noted though that the laboratory capacity and the costs of the

analysis are the main factors which influence the inclusion of new pesticides in the national monitoring plan.

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

In 2020 a total of 499 food samples of plant and animal origin were analyzed in the framework of the official controls. Sampling rate was 56,2 samples /100 000 inhabitants.

Plant Origin samples

The number of plant origin samples analyzed in 2020 was 351. The number of fruits tested was 100, vegetables 135, cereals 48 and pulses 35. Processed foods such as dry fruits, teas and dry herbs were also analyzed. A total of 13 rye samples were analyzed according to the requirements of the EU coordinated plan, but due to the limited number of rye grains found in the market, rye flour and rye flakes were also analyzed. For the purpose of the import controls, 105 samples were analyzed. The main imported products were vegetables, fruits, cereals and spices.

The 51 % of the plant origin samples were found to be positive with pesticide residues while residues of more than one pesticides were found in the 32,2 % of the samples.

The most frequently found pesticides within 2020 were **Cypermethrin in 7.8%, Fludioxonil in 6.6%, Pyrimethanil and Tebuconazole in 5.8 %**, **Acetamiprid, Azoxystrobin, Boscalid, Carbendazim, Chlorpyrifos and Imazalil in 5.0 %** of the samples analyzed for.

For statistical purposes, the violation rate of the MRLs is calculated taking into account only the samples of plant origin. For the year 2020, the 5.1% of the 351 samples were considered as legal violations, which means that the samples exceed the MRLs after taking into account the measurement uncertainty.

The number of organic farming samples analyzed was 61 out of which the 45 samples were analysed in the framework of the national monitoring program of organic products. Four samples were found to be positive with pesticide residues. A sample of dry black eye beans contained chlorpyrifos at concentrations higher than the MRL of the Regulation 396/2005. All the results, which are presented in table 1, were reported to the competent authority of the organic products so that the appropriate measures to be taken.

Table 1: Results of organic farming samples

Product	Pesticide	Found value mg/kg
Black eye beans dry	Acetamiprid	0.011
	Carbaryl	0.097
	Chlorpyrifos	0.034
Red wine	Carbendazim	0.039
	Metalaxyl	0.011
	Pyrimethanil	0.013
	Thiophanate methyl	0.025
	Triadimenol	0.012
Grapes	Spinosad (spinosad, sum of spinosyn A and spinosyn D)	0.010
Plums	Spinosad (spinosad, sum of spinosyn A and spinosyn D)	0.009

Comparing the results of 2020 with that of 2019, the violation rate was found to show a decrease from **7.3%** to **5.1%** and the frequency of multiple residues in 2020 was lower (**32.2%**) compared to 2019 (**39.2%**).

Animal Origin Samples

Within 2020, **148** samples of animal origin have been analyzed for pesticide residues, of which 11 samples were milk based baby food. The samples of bovine liver, chicken fat and baby food were analyzed in the framework of the Community control plan. The rest of the samples have been analyzed under the National monitoring plan in order to fulfill the requirements of the EU directive 96/23.

In total 7 samples of animal origin products found to contain pesticides at quantifiable levels: A calf meat sample was positive with DDT at very low levels, much lower than the MRL. The 50% of the honey samples found to be positive with Amitraz at concentrations ranged between 0.013 - 0.42 mg/kg and one sample contained Coumaphos at concentration of 0.033 mg/kg. The concentrations of Amitraz determined in two honey samples were higher than the MRL but only for the one sample the concentration was still higher than the MRL after subtracting the measurement uncertainty.

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

In 2020, **10%** of the samples of plant origin (**35** samples in total out of **351** samples of plant origin) were found non-compliant with the EU MRLs, whereas the **5.1%** of the samples (**18** samples in total) were considered as legal violations (meaning that they were found as non-compliant with the legal limits taking into account the measurement uncertainty).

Acute exposure assessment using the Primo v 3.1 has been performed for all legal violations, with exception of two cases (Tricycazole in rice) for which no toxicological data were available. All calculated exposures showed no risk for the consumers.

The following follow-up actions were taken in the cases of non-compliant samples.

Table 2: Possible reasons for MRL non-compliance and actions taken

Reason for MRL non-compliance	Pesticide/food product	Frequency	Action taken
GAP not respected: application rate, number of treatments, application method or PHI not respected	Dimethoate / Oranges	1	Administrative consequences
Use of a pesticide on food imported from third countries which no import tolerance was set	Profenofos / Lemons	1	Administrative consequences
GAP not respected: use of a pesticide not approved in the EU	Chlorpyrifos / Parsley	1	Administrative consequences
GAP not respected: use of an approved pesticide not authorized on the specific crop	Triadimenol / Grape leaves	1	Administrative consequences / Lot recalled from the market / Destruction of product

Use of a pesticide on food imported from third countries which no import tolerance was sets	L-Cyhalothrin / Pomegranates	1	Administrative consequences/ Lot recalled from the market/ Destruction of product
Use of a pesticide on food imported from third countries which no import tolerance was set	Iprodione / Carrots	1	Administrative consequences
GAP not respected: use of a pesticide not approved in the EU	Linuron / Carrots	1	
GAP not respected: use of an approved pesticide not authorized on the specific crop	Cypermethrin / Celery	1	Administrative consequences
GAP not respected: application rate, number of treatments, application method or PHI not respected	Fluopicolide / Celery		
	Propamocarb / Celery		
GAP not respected: use of an approved pesticide not authorized on the specific crop	L-Cyhalothrin / Pomegranate	1	Administrative consequences
	Fluopyram / Pomegranate	1	
	Tebuconazole / Pomegranate		
GAP not respected: use of an approved pesticide not authorized on the specific crop	Cypermethrin / Spinach	1	Administrative consequences
	Deltamethrin / Spinach	1	
	Fluazifop / Spinach	1	
	GAP not respected: application rate, number of treatments, application method or PHI not respected		
GAP not respected: use of a pesticide not approved in the EU	Linuron / Spinach	1	
Use of a pesticide on food imported from third countries which no import tolerance was sets	Acetamiprid / Rice	1	Lot not released on the market/ Destruction of product
Use of a pesticide on food imported from third countries which no import tolerance was set	Acetamiprid / Rice	1	Lot not released on the market

Use of a pesticide on food imported from third countries which no import tolerance was set	Thiamethoxam/ Rice	1	Lot not released on the market /Destruction of product
	Tricyclazole / Rice	2	
Use of a pesticide on food imported from third countries which no import tolerance was set	Lufenuron / Thyme dry	1	Lot not released on the market /Destruction of product
GAP not respected, organic product / Use of a pesticide on food imported from third countries which no import tolerance was set	Chlorpyrifos / Black eye beans dry	1	Lot recalled from the market

3. Quality assurance

The PR Lab of the SGL is accredited since 2002 according to EN ISO/IEC 17025:2005. The PR-Lab applies Quality Control procedures, which are in line with provisions of SANTE documents "Analytical Quality Control and Method Validation Procedures for Pesticide Residues Analysis in Food and Feed".

Country code	Laboratory Name	Laboratory Code	Accreditation Date	Accreditation Body	Participation in proficiency tests or interlaboratory tests
CY	State General Laboratory of Ministry of Health	SGL_CYPRUS_FP	2002	Cyprus Accreditation Body(CYS-CYSAB)	PTs 2020: EUPT-SRM-15 (rice) EUPT-AO-15 (rape seed oil) EUPT-FV-22 (onions) EUPT-CF-14 (rice) EUPT-SC-14 (sultana raisins)

4. Processing Factors (PF)

Processing factors were applied to verify the compliance with EU MRLs of the processed food. Table 3 presents the PFs applied for different food.

Table 3: Processing factors

Pesticide(report name)	Unprocessed product (RAC)	Processed product	Processing factor (PF)	Source of PF
Boscalid	Table grapes	Raisins	2.4	EFSA (EU) database
Chlorantraniliprole			3.5	EFSA (EU) database
Cyprodinil			1	Default
Fenhexamid			1.75	BfR
Fludioxonil			1.1	EFSA (EU) database
Fluopyram			2.9	EFSA (EU) database
Pyraclostrobin			1	Default
Pyrimethanil			1.6	BfR
Tebuconazole			1.2	RIVM

Carbentazim Metalaxyl Pyrimethanil Triadimenol Thiophanate methyl	Wine grapes	Wine	1	Default
Cypermethrin Lufenuron Pirimiphos methyl	Thyme fresh	Thyme Dried	6.7	Drying factor