30. Spain

30.1. Objective and design of the national control programme:

Responsibilities:

The following areas participate in the preparation and execution of the national control program:

- The general sub directorate of Consumers affairs and gambling of the Ministry of social rights, consumer affairs and agenda 2030 (*the Spanish acronyms is MDSCA*)
- The general sub directorate for official control and alerts of the Spanish Agency for Food Safety and Nutrition Autonomous Organization (*the Spanish acronyms is AESAN OA*).
- The control units of the regional competent authorities (*the Spanish acronyms is CCAA*).

Each unit has assigned coordination or execution functions within its scope.

The AESAN OA is an autonomous body attached to the ministry of social rights, consumer affairs and agenda 2030, and acts as a link between the European Commission, the European Food Safety Authority (EFSA) and the regional competent authorities (CCAA), which are the responsible for the execution of the programs at regional level.

For the development and implementation of the "Annual National Programme" based on risk, a Programming Guide has been developed and approved in Spain. This document aims to support the autonomous control units and the foreign health unit in their programming functions.

The national program is made up of two sub-programs, which are based on the point at which the samples are collected:

- market subprogramme, coordinated by AESAN OA.
- imports subprogramme, coordinated by MDSCA.

Official controls on pesticides:

The national pesticide residue control program include the controls carried out by the CCAA, acting the AESAN OA as coordinator. The annual plans developed by the CCAA and coordinated by AESAN OA include supervision of unauthorized products.

30.1.1. Objectives:

The objectives of the national control plan are:

- To ensure that official controls are carried out to avoid to place in market food products treated with unauthorized pesticides.
- To ensure that official controls are carried out in order to avoid to place in market food products with pesticide residue levels higher than those established by current regulations, which may pose a risk to the health of consumers.

30.1.2. Design of programmes:

Those responsible for sampling are the inspectors of the regional competent authorities.

Those samples taken at the border inspection posts/points of entry, are taken by staff from the General Directorate of Public Health.

The selection of samples is based on:

- Consumer data: Spanish diet model to determine exposure to chemical products; foods intended for populations at risk (baby foods).

- Production data.
- Products with a high consumption in each region.
- Information from import programme.
- Information from the Plant Health of the Ministry of Agriculture services on recent inspections, prohibited use of pesticide, etc.
- The pattern of use of plant protection products (commonly used, time of application).
- Toxicity of the active substances.
- Recent changes in the MRL or withdrawal of authorisations for use/approval of active substances.
- Scope of accreditation of the laboratory/analytical capacity/resources.
- Non-compliant results obtained in previous years.
- Pesticide residues selection: In the national risk-based programming work, the Working Document SANTE/11312/2021 is also taken into consideration, as it includes the pesticides that should be considered for inclusion in the national control programs to guarantee compliance with the maximum levels of pesticide residues in food of plant and animal origin.

The combination of sample-pesticide residues is based on:

- Frequency of findings of residues of active substances in food products in reporting plans (national and EU) official control from prior years.
- RASFF notifications.
- The products listed in Implementing Regulation (EU) 2022/741 of the Commission, 13th of May 2022, concerning a concerning a coordinated multiannual control programme of the Union for 2023, 2024 and 2025 to ensure compliance with maximum residue levels of pesticides and to assess the consumer exposure to pesticide residues in and on food of plant and animal origin.

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

This report includes the pesticide residues analysed during the year 2023 within the framework of the monitoring and control program for pesticide residues in food. These data were provided by the Health affairs and Public Health services of the regional competent authorities and by the General Sub-directorate of foreign affairs.

Within the multiannual national control program for pesticides residue, it had been analysed the phytosanitary residues that the different laboratory entities have been able to determine, based on legal requirements defined in the legislation and the available detection methodology.

Food matrices have been categorized in this report following the classification settled in Annex I, of Regulation (EC) 396/2005, (which is defined in Regulation (EC) 2018/62), as well as the standardized nomenclature for the classification and description of EFSA´s FOODEX2, following the standards established by said authority.

In order to better understand the information regarding the number of samples per number of inhabitants taken by Spain, it must be taken into account that the results sent to EFSA from Spain do not include samples taken in primary production. Due to the organization of the Spanish administration, samples taken in primary production are considered excluded from the scope of application of Regulation (EC) No. 396/2005.

Pesticide residue control data for the year 2023 have been collected in two modalities:

- The main route, the application developed by the official control and alerts general sub-directorate named "GEDA". This application has been develop to standardize and facilitate the data collection, thus generating a database, which allows the management of information. 90.09 % of the data received have been sent using this application.
- The second option, the tool provided by EFSA for manual data collection: "EFSA XML TOOL". This tool, in Excel format, allows the introduction of information by means of codes defined by EFSA, collected in different catalogues, and facilitates the creation of XMLs for direct submission to the EFSA platform. Through this system, 9.91% of the data were collected.

The data is received following the scheme designed by the European Security Authority Food (EFSA); the "Standard Sample Description 2" (SSD2). This scheme defines the structure in which the information must be described, which is introduced using a controlled terminology (catalogues that codify each possible definition, to harmonize criteria), and allows to follow validation rules to guarantee the quality of the data provided. This allows the harmonization of the data received by EFSA for subsequent analysis. This scheme is transmitted to EFSA in XML format to the Data Collection Framework (DCF).

30.2.1. Key findings:

In 2023, 2492 samples were analysed for pesticide residues within the framework of the monitoring and control program for pesticide residues in food. The analysis of those **2492** samples lead to **378428** results.

The **1.73%** of the analysed samples shown pesticide residues levels exceeding the EC-MRL. In particular, there have been 43 non-compliant samples that correspond to 52 non-compliant results, since there are samples that have tested positive for more than one substance (e.g a *Rice sample, was positive to Thiamethoxam and Tricyclazole)*.

None of the baby food samples were non-compliant. The group of "Fruits and other vegetables" shows the higher number of non-compliant results, but this is the group that comprehends 82.83% of the samples tested. The parameter that has been confirmed in more samples within this group was *Chlorpyrifos with* 8 positive results. The biggest number of samples and analysed substances belong to this group, and 43 of the 52 pesticides detected, appeared within the group.

Regarding the groups "Products of animal origin", two samples presented residues; 2 fish samples.

The group of Cereals presented 7 positive results, of 5 different residues, in which Diflubenzuron and Tricyclazole in several samples.

Main results are detailed in Table 190 and Table 191

Table 190: General summary – part 1

Matrix	Total number of samples	Total number of results	Compliant samples	Samples with residues >MRL	% NC
Products of animal origin	179	9796	177	2	1,12 %
Baby foods	20	2238	20	0	0 %
Cereals	130	21379	125	5	3,85 %
Fruits and other vegetables	2163	345015	2127	36	1,66 %
Total	**2492**	**378428**	**2449**	**43**	**1,73 %**

Table 191: General summary – part 2

Matrix	Samples without residues detected	% Without residues	Samples with residues detected	% With presence	Samples compliant due to the analytical method uncertainty
Products of animal origin	176	93,32 %	3	1,68 %	2
Baby foods	20	100 %	0	0 %	0
Cereals	102	78,46 %	28	21,54 %	7
Fruits and other vegetables	1275	%	888	41,05%	43
Total	**1573**	**63,12 %**	**919**	**36,88 %**	**52**

From the 2492 samples taken;

- **79.33 %** of the samples were objective samples,
- **3.61 %** of the samples were selective samples,
- **17.05 %** were suspect sampling.

Samples had been collected in the framework of the following legal references:

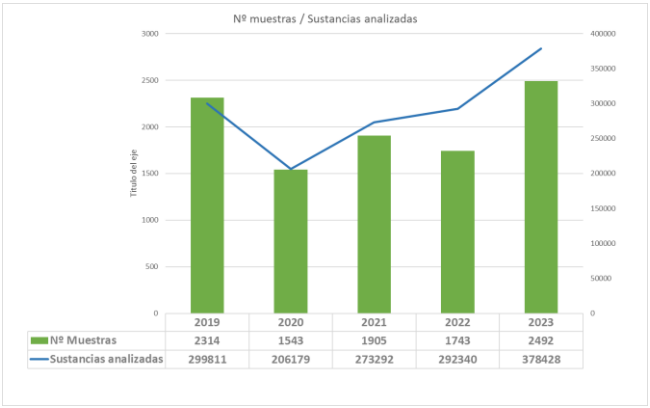
- Regulation (EC) No 396/2005 (amended) → **92.66%** of the samples;
- Commission Directive (EC) No 125/2006 and 2006/141/EC → **0.08%**
- Commission Implementing Regulation (EU) 2019/1793 → **7.14%**

Below, you can see how the samples sent had been scheduled and taken.

- Official (National and EU) programme → **3,53%**
- Official (EU) programme → **36,08%**
- Official (National) programme → **60,39%**

30.2.2. Interpretation of the results

The amount of samples collected in 2023, is higher than previous years, as shown in the graphic.



The amount of residues tested has also increased, which could be interpreted as an improvement of the analysis of the sample taken.

70,83% of the samples taken were of Spanish origin while the rest of the samples were from third countries and European countries. Related with the non-compliances, 24 out of 43 samples had Spanish origin while 19 were from third countries, highlighting that 10 out of those 19, had Morocco as origin.

The quality of the data sent to EFSA has improved because the AESAN OA application (called GEDA) has been adapted to the latest EFSA's requirements, that only allow the reporting of substances that are part of the of the legal residue definitions described by the European Commission. Perhaps for this reason, some autonomous communities may not have been able to report all the substances analysed by their laboratories (part of the sum).

To decide on any compliance action, all laboratories have procedures for estimating analytical uncertainty. The SANTE/11312/2021 document is also considered.

Some new confirmation methods were implemented in Spanish laboratories to increase the number of pesticide residues measured and lower the detection limits of some from them.

The results are detailed in the Table shown below:

Table 192: NC results. Summary

Matrix	Samples	Results	Pesticide	Frequency
Animal products	2	2	DDT (sum of p,p'-DDT, o,p'-DDT, p-p'-DDE and p,p'-TDE (DDD) expressed as DDT)	2
Baby foods	0	0	--	0
Cereals	5	7	Acetamiprid	1
			Diflubenzuron	2
			Piperalin	1
			Thiamethoxam	1
			Tricyclazole	2
Fruits and other vegetables	36	43	Acephate	1
			Acetamiprid	1
			Azoxystrobin	1
			Benzalkonium chloride (mixture of alkylbenzyldimethylammonium chlorides with alkyl chain lengths of C8, C10, C12, C14, C16 and C18)	1
			Carbendazim and benomyl (sum of benomyl and carbendazim expressed as carbendazim)	1
			Chlorfenapyr	3
			Chlorothalonil	1
			Chlorpropham	2
			Chlorpyrifos	8
			Deltamethrin (cis-deltamethrin)	1
			Dithiocarbamates (Dithiocarbamates expressed as CS2, including Maneb, Mancozeb, Metiram, Propineb, Thiram and Ziram)	2
			Fenbuconazole (sum of constituent enantiomers)	1
			Imazalil (any ratio of constituent isomers)	1
			Imidacloprid	2
			Iprodione	1
			Linuron	1
			Methamidophos	1
			Methomyl	1
			Metrafenone	1
			Oxamyl	1
			Oxyfluorfen	1

			Piperalin	1
			Pirimiphos-methyl	1
			Propamocarb (Sum of propamocarb and its salts, expressed as propamocarb)	1
			Propargite	3
			Propiconazole (sum of isomers)	1
			Tebuconazole	1
			Tetraconazole (sum of constituent isomers)	1
			Thiamethoxam	1
Total	43	52		

30.2.3. Comparability with the previous year results:

In 2023, a total of 2492 samples were analysed for pesticide residues compared to a total of 1743 samples analysed in 2022, and the 1905 samples analysed in 2021.

This year, the number of analyses has decreased slightly comparing with the amount taken in 2022.

Table 193: Comparability samples/results by year

Year	Total number of samples	Total number of results
2020	1,543	206,179
2021	1,905	273,292
2022	1,743	292,340
2023	**2,492**	378,428

Chlorpyrifos has been detected in 8 out of 2,069 samples analysed for substances related to Chlorpyriphos, as seen in Table 194. The residues checked were:

- Chlorpyrifos.
- Chlorpyrifos-methyl.
- Sum of chlorpyrifos-methyl and desmethyl chlorpyrifos-methyl.

Table 194: Frequency of residue ***chlorpyrifos*** by year

Year	Residue non-compliant more common	Number of samples analysed	Number of non-compliant	%	Product more common
2021	Chlorpyrifos	1,720	6	0.2	Fruits and other vegetables (1 Coffe beans/ 5 oranges)
2022	Chlorpyrifos	1,632	0	0	--
2023	Chlorpyrifos	2,069	8	0.39	Fruits and other vegetables (1 Sweet corn / 1 orange / 1 mandarine / 1 other oil fruits/ 4 Infusion herbs)

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

30.3.1. Possible reasons for non-compliant samples

The investigation of each case by the relevant competent authorities has yielded the following conclusions, described in table 195.

Table 195: Possible reasons for MRL non-compliance

Reasons for MRL non-compliance	No. of non-compliant samples concerned	Residue/Product
Accidental	5	Diflubenzuron/ **Rice** Imidacloprid/ **Cauliflower** Piperalin/ **Rice/ Rye flour**
Good Agricultural Practice (GAP) not respected: use of an approved pesticide not authorised on the specific crop	1	Deltamethrin (cis-deltamethrin)/ **Spinaches**
Environmental contamination	3	DDT (sum of p,p'-DDT, o,p'-DDT, p-p'-DDE and p,p'-TDE (DDD) expressed as DDT)/ **Fish** Methamidophos/ **Dragon Fruit**
Cross contamination: spray drift or other accidental contamination	2	Metrafenone/ **Cultivated funghi** Tricyclazole / **Rice**
Unknown	20	Acephate/ **Dragon Fruit** Benzalkonium chloride (mixture of alkylbenzyldimethylammonium chlorides with alkyl chain lengths of C8, C10, C12, C14, C16 and C18) / **Mandarines** Chlorfenapyr/ **Tomatoes** Chlorothalonil/ **Peas** Chlorpyrifos/ **Table olives/ Sweet corn/ Oranges** Dithiocarbamates (Dithiocarbamates expressed as CS2, including Maneb, Mancozeb, Metiram, Propineb, Thiram and Ziram) / **Tea** Fenbuconazole (sum of constituent enantiomers) / **Tea** Imidacloprid **/ Cauliflowers** Iprodione / **Sweet Peppers** Methomyl/ **Watermelon** Oxamyl/ **Watermelon** Oxyfluorfen/ **Mandarines** Pirimiphos-methyl**/ Tomatoes** Propargite/ **Thyme** Tebuconazole/ **Tea**

		Thiamethoxam/ **Rice/ Onions** Tricyclazole/ **Rice**
Other	13	Acetamiprid/ **Brown Rice/ Persimmons** Azoxystrobin/ **Pears** Carbendazim and benomyl (sum of benomyl and carbendazim expressed as carbendazim)/ **Infusions and herbs** Chlorpropham**/ Potatoes** Chlorpyrifos/ **Infusions and herbs** Dithiocarbamates (Dithiocarbamates expressed as CS2, including Maneb, Mancozeb, Metiram, Propineb, Thiram and Ziram)/ **Infusions and herbs** Imazalil (any ratio of constituent isomers)/ **Oranges** Linuron/ **Celery** Propamocarb (Sum of propamocarb and its salts, expressed as propamocarb) / **Infusions and herbs** Propiconazole (sum of isomers) / **Infusions and herbs** Tetraconazole (sum of constituent isomers)/ **Borage**
Use of a pesticide on food imported from third countries for which no import tolerance was set	1	Chlorpyrifos/ **Mandarines**

30.3.2. Actions taken:

Table 196: Actions taken

Actions Taken	Pesticide/food product[a]	Frequency[b]
Follow-up action due to a residue of a pesticide detected in a EU sample, which is not approved for use in the EU territory	Diflubenzuron/ **Rice** Tricyclazole/ **Rice**	2
Intensified checks before release	Imidacloprid / **Cauliflowers**	1
Follow-up investigation	Acetamiprid/ **Brown Rice** Chlorpyrifos/ **infusion material** Deltamethrin (cis-deltamethrin)**/ Spinaches** Dithiocarbamates (Dithiocarbamates expressed as CS2, including Maneb, Mancozeb, Metiram, Propineb, Thiram and Ziram)/ **Tea leaves** Imazalil (any ratio of constituent isomers)/**Oranges** Linuron/ **Celery** Oxyfluorfen/ **Mandarines** Piperalin/ **Rice**	10

	Thiamethoxam**/Rice; Onions** Tricyclazole**/Rice**	
Lot not released on the market	Acephate/ **Dragon fruit** Benzalkonium chloride (mixture of alkylbenzyldimethylammonium chlorides with alkyl chain lengths of C8, C10, C12, C14, C16 and C18) / **Mandarines** Chlorfenapyr / **Tomatoes** Chlorothalonil/ **Peas** Chlorpyrifos/ **Olives / Sweet corn** Pirimiphos-methyl / **Tomatoes** Propargite/ **Thyme**	12
Lot recalled from the market	Methamidophos/ **Dragon fruit**	1
Follow-up (suspect) sampling	Methomyl/ **Watermelon** Oxamyl/ **Watermelon** Piperalin/ **Rye flour**	2
Rapid Alert Notification	Carbendazim and benomyl (sum of benomyl and carbendazim expressed as carbendazim)/ **infusion material** Chlorpyrifos/ **infusion material/ mandarins/ oranges** Dithiocarbamates (Dithiocarbamates expressed as CS2, including Maneb, Mancozeb, Metiram, Propineb, Thiram and Ziram)/ **Tea leaves** Fenbuconazole (sum of constituent enantiomers)/ **Tea leaves** Metrafenone/ **Cultivated funghi** Propamocarb (Sum of propamocarb and its salts, expressed as propamocarb)/ **Infusion material** Propiconazole (sum of isomers)/ **Infusion material** Tebuconazole/ **Tea leaves**	7
Other	Acetamiprid/ **Persimmons** Azoxystrobin/ **Pears** Chlorpropham/ **Potatoes** DDT (sum of p,p'-DDT, o,p'-DDT, p-p'-DDE and p,p'-TDE (DDD) expressed as DDT)/ **Fish** Iprodione/ **Sweet peppers** Tetraconazole (sum of constituent isomers)/ **Borage**	8
No action	Imidacloprid/ **Cauliflowers**	1

30.4. Quality assurance

Table 197: Laboratories participation in the national control program

Country	Laboratory	Accreditation		Participation in proficiency tests or inter-laboratory tests
	Name	Date	Body	
Spain	AINIA. ASOCIACIÓN DE INVESTIGACIÓN DE LA INDUSTRIA AGROALIMENTARIA	20/12/1996	ENAC	FAPAS, EUPT, Test-Qual
Spain	CENTRO NACIONAL DE TECNOLOGÍA Y SEGURIDAD ALIMENTARIA- CNTA	12/06/1997	ENAC	
Spain	LABORATORIO DE SAÚDE PÚBLICA DE GALICIA. Laboratorio de Lugo	10/07/1998	ENAC	FAPAS, EUPT, Test-Qual
Spain	LABORATORIO REGIONAL DEL GOBIERNO DE LA RIOJA	28/05/1999	ENAC	FAPAS, EUPT, Test-Qual
Spain	LABORATORIOS AGROALIMENTARIO Y ENOLÓGICO DE LA GENERALITAT VALENCIANA.	22/10/1999	ENAC	FAPAS, EUPT, Test-Qual
Spain	LABORATORIO DE SALUD PÚBLICA DE BIZKAIA	04/02/2000	ENAC	FAPAS, EUPT, Test-Qual
Spain	LABORATORIO REGIONAL DE SALUD PÚBLICA DE MADRID	18/02/2000	ENAC	FAPAS
Spain	LABORATORIO DE SALUD PÚBLICA (MADRID SALUD). AYUNTAMIENTO DE MADRID	02/06/2000	ENAC	EUPT
Spain	LABORATORIO DE LA AGENCIA DE SALUD PÚBLICA DE BARCELONA	21/07/2000	ENAC	FAPAS, EUPT, Test-Qual
Spain	Laboratorio KUDAM S.L.U.	24/05/2002	ENAC	FAPAS, EUPT, Test-Qual
Spain	FItosoil Laboratorios S.L	03/10/2003	ENAC	
Spain	LABORATORIO DE SALUD PÚBLICA DE ALMERÍA	08/09/2005	ENAC	FAPAS, EUPT
Spain	LABORATORIO QUÍMICO MICROBIOLÓGICO. MURCIA	14/07/2006	ENAC	EUPT, Test-Qual
Spain	Laboratorio Regional: AGQ LABS: Labs & Technological Services AGQ, S.L. (Sevilla)	19/01/2007	ENAC	FAPAS, EUPT, Test-Qual
Spain	LABORATORIO AGROALIMENTARIO Y DE SANIDAD ANIMAL DE MURCIA	16/10/2009	ENAC	FAPAS, EUPT, Test-Qual
Spain	LABORATORIO AGROAMBIENTAL DE ARAGON	18/12/2009	ENAC	FAPAS, EUPT, Test-Qual
Spain	INSTITUTO TECNOLÓGICO DE CANARIAS	21/10/2011	ENAC	FAPAS, EUPT, Test-Qual
Spain	LABORATORIO DE SALUD PÚBLICA DE CUENCA	02/12/2011	ENAC	FAPAS, EUPT
Spain	LABORATORIOS APINEVADA, S.L.	06/07/2012	ENAC	
Spain	LABORATORIO DE SALUD PÚBLICA DE BADAJOZ	24/05/2013	ENAC	FAPAS, EUPT

Spain	LABORATORIO AGRARIO REGIONAL DE LA CONSEJERÍA DE AGRICULTURA Y GANADERÍA DE LA JUNTA DE CASTILLA Y LEÓN	28/11/2014	ENAC	FAPAS, EUPT

30.5. Processing Factors (PF)

In the table below, you can find the processing factors that were used by national competent authorities to verify compliance of processed products with EU MRLs are compiled.

Table 198: Processing factors overview

Pesticide (report name)	Unprocessed product (RAC)	Processed product	Processing factor
All pesticides	Wine grapes	Wine	1
All pesticides	Olives for oil production	Olive oil	3
All pesticides	Olives for oil organic production	Organic extra virgin olive oil	3
All pesticides	Rye	Rye Flour	2,4