

Pesticide Residue Monitoring in Food of Plant Origin Belgium 2008



Results of the official controls in accordance to Regulation (CE)
N°396/2005 and Commission Recommendation 2008/103/EC



Federal Agency for the
Safety of the Food Chain
<http://www.afsca.be>

Pesticide Residue Monitoring in Food of Plant Origin in Belgium - 2008

Summary of results

In 2008, a total number of 1602 samples of fruits, vegetables, cereals and processed products of plant origin (including baby food) were taken by the Belgian Federal Agency for the Safety of Food Chain (FASFC) on the Belgian market and analysed for the presence of pesticide residues [table 1 and 2].

Samples	analysed	without residues	with residues at or below MRL	> MRL
Fruits & vegetables	1413	28,2 %	65,7 %	6,1 %
Cereals	19	31,6 %	68,4%	0 %
Processed products	67	55,2 %	44,8 %	0 %
Baby food	103	100 %	0 %	0 %
TOTAL	1602	34%	60,6%	5,4%

Samples of fruits & vegetables				
Origin	BE	CE	Third countries	Unknown
Samples (%)	38,1%	23,1%	37,9%	0,9%
>MRL (%)	3,7%	3,1%	10,5%	0%

Table 1 and 2: Overview of the results of the pesticide residue monitoring programme 2008 and origin of the samples of fruit and vegetables.

Fruit & vegetables : 1413 samples of fresh or frozen fruit and vegetables were analysed in 2008. No residues were found in 28,2 % of them. 6,1 % of the samples analysed exceeded the maximum residue levels (MRL) set in the legislation. It should be noted that more exceeding levels were observed in foodstuffs from third countries than in products grown in the EU [annex 1]. The main products showing MRL exceeding are described in annex 2. The rate of MRL exceeding is lower than in 2007 (-0,8%) but the rate of samples with detectable residues is higher when compared to last year [diagram 1].

Several factors have to be taken into account when interpreting these results :

- The improvement of the analytical performance of the laboratories these last years. More and more pesticides are analysed (from 181 in 2004 to 349 in 2008) with a higher sensitivity of detection, [diagram 2]).
- The control programme is based on the risk and a particular attention is given to foodstuff susceptible to exceed the MRL's. Certain foodstuff from the

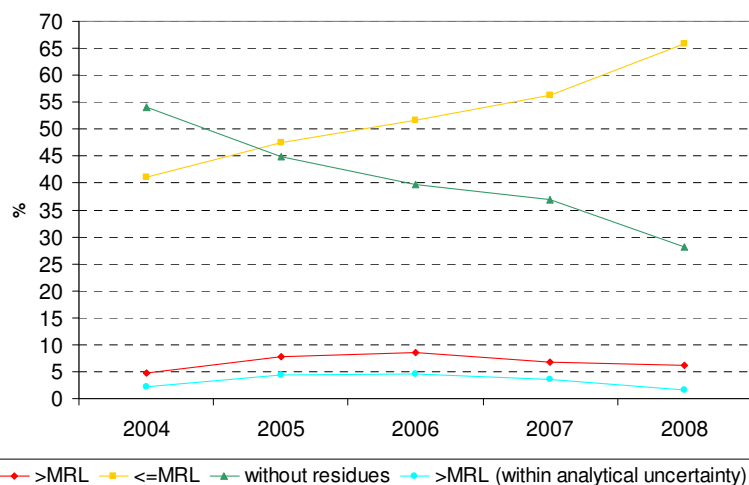


Diagram 1 : levels of pesticide residues in samples of fruit & vegetables analysed during the years 2004-2008.

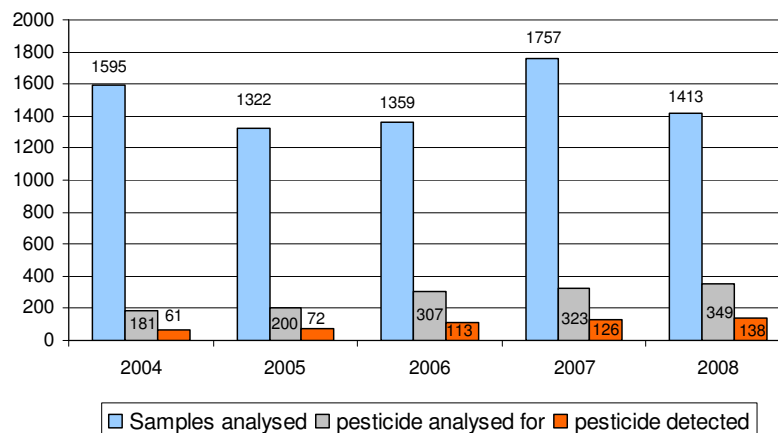


Diagram 2 : numbers of samples of fruit & vegetables analysed and pesticides searched for/detected during the years 2004-2008

Dominican Republic and Thailand (aubergines, lauki, mangoes, ...) were specially targeted. Several MRLs exceeding were observed.

- As specified in the Commission guidelines, this report does not take into account the analytical uncertainty of the result. Taking into account that uncertainty, the rate of exceeding falls to 2,4 %.

Out of a list of 349 different pesticide residues analysed in fruit and vegetables, a total of 138 were found at least once during the monitoring programme. The pesticide residues that were found most often are fungicides: iprodion, boscalid, dithiocarbamates, imazalil, difenoconazole, propamocarb, thiabendazole and cyprodinil.

Cereals: Out of the 19 samples of cereals analysed in 2008, no MRL exceeding was observed.

Processed products : Out of the 67 samples of processed products analysed, no MRL exceeding was observed.

Baby food: Out of 103 samples of baby food analysed, no residues were detected.

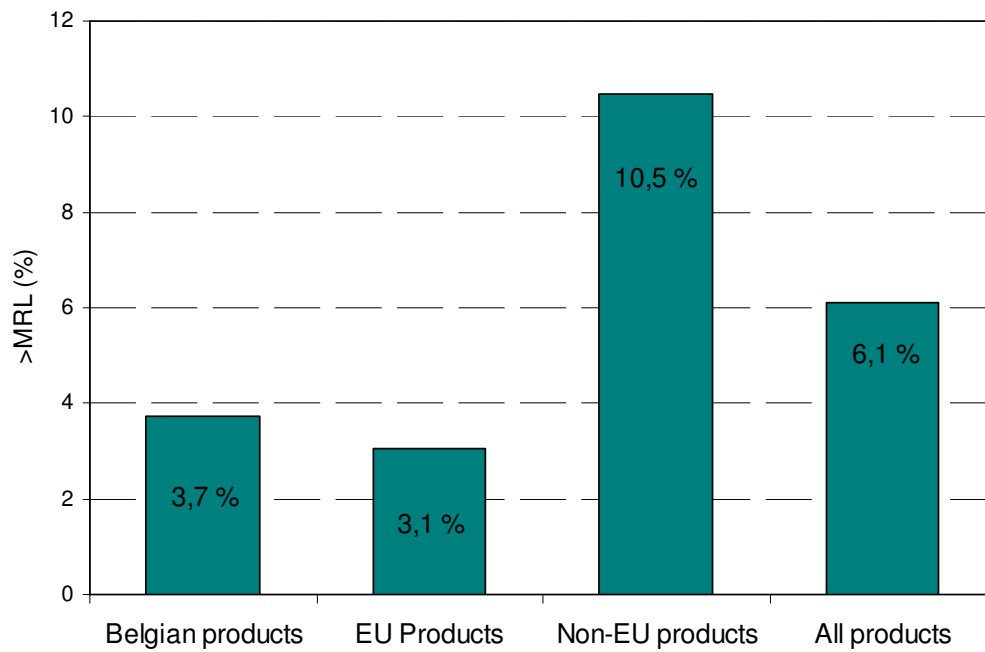
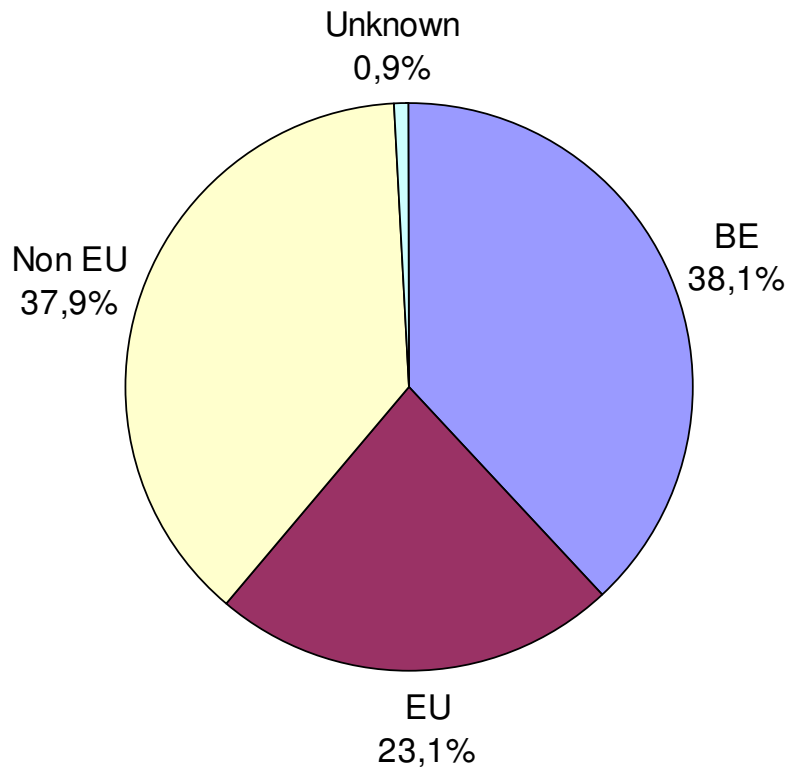
Organisation of monitoring programmes and sampling

- **Responsibilities:** The Federal Agency for the Safety of the Food Chain (FASFC), under the responsibility of the Minister of Agriculture, is the competent authority for the control of pesticides residues in foodstuffs (<http://www.afsca.be>)
- **Drafting of the monitoring plan:** The monitoring programme does not provide for a total random analysis, but is based on risk assessment. Several factors were taken into account: the exceeding in previous years in Belgium and in other Member States, the RASFF messages, the toxicity of pesticides, the importance of the foodstuffs in diets, the analytical and budgetary possibilities and all other useful information. All groups of fruits and vegetables are included in the programme and a rolling programme is applied for less important commodities. The coordinated programme of the European Commission was also included in the national programme.
- **Sampling:** Samples were taken by trained officers according to Directive 2002/63/EG, mainly at auctions, importers, wholesalers and processors.
- **Measures taken:** In case of infringement, the responsible company/person is identified. When the exceeding of MRL is within the analytical uncertainty, a warning is issued. When the exceeding is higher, an official report is made and sent to the responsible company/person and also to the legal department of the FASFC. The legal department proposes a fine. If the fine is not paid, or in case of repeated offences, the matter is taken to court. When the dietary intake calculations indicate a risk for the consumer (estimated in accordance with document SANCO/3346/2001) a national and an international rapid alert (RASFF) are issued and measures are taken to protect consumers (tracing and recall of the foodstuffs for destruction). In 2008, 10 RASFF were issued (annex 3).

Quality insurance

- Four officially recognised laboratories were involved in the monitoring programme 2008. They are all ISO 17025 accredited for the most important analytical methods and commodities. Multiresidue methods as well as specific individual methods were performed on the samples. All certificates of accreditation can be found on the website of the Belgian Organisation for Accreditation (<http://belac.be/>). The laboratories took into account EU Quality control procedures (ref. SANCO/2007/3131).
- Laboratories participated in different proficiency or inter-laboratory tests.

Annex 1: Origin of the samples analysed and exceeding of MRLs per origin.



Annex 2: main products showing MRL exceeding (official controls)

Products as describes in annex 1 of Regulation (CE) N° 396/2005	> MRL (%)	Main pesticide residues detected	Countries of origin (with number of samples showing MRL exceeding ¹)
Fruiting vegetables <ul style="list-style-type: none"> • Aubergines • Lauki • Chill peppers • Okras's • Cucumbers • Melons • Tomatoes • Peppers 	11,5%	Méthomyl, carbendazim, acetamiprid, endosulfan, captan, métalaxyl, fenvalerate, Profenofos, thiabendazole, oxamyl, diazinon, acephate, carbofuran ethion, méthamidophos, triforine, diméthoate	The Dominican Republic (14), Thaïland (3), Ouganda (3), Belgium (2), Brazil (1), Egypt (1), France (1), India (1), The Netherlands (1), Spain (1)
Miscellaneous fruit <ul style="list-style-type: none"> • Passion fruits • Figs • Mangoes • Kakis • Kiwis 	9,2 %	Dithiocarbamates, iprodione, imidaclopride, lambda-cyhalothrin, thiacloprid, prochloraz, profenofos, endosulfan, cypermethrine, difenoconazole	Brazil (3), Colombia (2), Ouganda (2), Israël (2), Costa-Rica (1), New-Zealand (1)
Bulb vegetables <ul style="list-style-type: none"> • Garlic 	8,7 %	Azoxystrobine, diméthoate	Spain (2)
Legume vegetables <ul style="list-style-type: none"> • Beans • Peas 	7,3 %	Diméthoate, acephate, carbendazim, methomyl, acetamiprid, chlorpyrifos	Kenya (5), China (3), Guatémala (1)
Stem vegetables <ul style="list-style-type: none"> • celery 	6,7 %	Chlorprophame, oxadixyl, iprodione	Belgium (3)
Leaf vegetables and fresh herbs <ul style="list-style-type: none"> • Mint • Lambs lettuce • Spinach • Lettuce 	6,3 %	Phenmedipham, dithiocarbamates, carbosulfan, acetamiprid, hexaconazole, iprodione, carbendazim, cypermethrin, metobromuron, tetraconazole	Belgium (13), Israël (2)
Berries and small fruit <ul style="list-style-type: none"> • Currants • Strawberries • Grapes 	5,1 %	Indoxacarb, méthomyl, methamidophos, diméthoate, chlorpyrifos, captane	Israël (3), Belgium (2), Egypt (1)
Citrus fruit <ul style="list-style-type: none"> • Oranges • Grapefruit • Mandarins 	4,3 %	Imazalil, thiabendazole, diazinon, diméthoate, carbaryl	Argentina (1), Brazil (1), Egypt (1), Spain (1), USA (1)
Pome fruit <ul style="list-style-type: none"> • Pears • Apples 	2,7 %	Chlorméquat, azinphos-methyl, phosalone	Belgium (1), France (1), South Africa (1),
Root vegetables <ul style="list-style-type: none"> • Carrots 	2,5 %	Chlorpyrifos, linuron, diméthoate	Belgium (2), Spain (1)
Stone fruit <ul style="list-style-type: none"> • Apricots 	1,7 %	Chlorpyrifos	France (1), Spain (1),

¹ As specified in the Commission guidelines, this report does not take into account the analytical uncertainty of the results.

Annex 3 : RASFF message issued by Belgium in 2008

Produits	Pesticides	Origine
Cucumbers	Methomyl (0,157 mg/kg)	The Netherlands
Chili peppers	Carbofuran (0,127 mg/kg) Carbendazim (0,177 mg/kg) Diméthoate (somme) (0,1 mg/kg) Triforine (0,149 mg/kg)	Thaïland
Tea / herbal infusion	HCH (0,98 mg/kg) Procymidone (0,43 mg/kg) HCB (0,3 mg/kg) Quintozene (2,3 mg/kg) Tecnazene (0,19 mg/kg)	China
Grapes	Methomyl (0,94 mg/kg)	India
Oranges	Carbaryl (0,1 mg/kg)	USA
Pineappels	Triadimenol (1,69 mg/kg) Triadimefon (4,02 mg/kg)	Ecuador
Mangoes	Prochloraz (10,34 mg/kg)	Costa-Rica
Aubergines	Oxamyl (0,12 mg/kg)	The Dominican Republic
Peppers	Methomyl (0,34 mg/kg)	Egypt
Chilli peppers	Carbofuran (0,17 mg/kg) Acephate (0,26 mg/kg) Carbendazim (1,54 mg/kg) Ethion (2 mg/kg) Hexaconazole (0,24 mg/kg)	India