



National Movement Friends of the Earth

Current Data and Evaluation on
Pesticide Residues in Products of
Plant Origin



Republic of Bulgaria

The problem in Bulgaria

Till now there has not been

established a National Monitoring

System for controlling Pesticide

Residue in Food

Two Ministries argue about the privilege to control Food

Ministry of Health

It is in charge for all domestic and imported food

It works out and gives annual Instructions to its 28 Regional Hygiene and Epidemiological Inspectorates about control of food

Ministry of Agriculture and Forestry

It must analyze the raw materials of plant origin for pesticide residue

The Departmental Program about monitoring for the period 2004-2006 was established

Legislation

- Food Act
- Law on public health
- Law on plant protection
- Law on veterinary
- Fisheries and Aquaculture Act
- Regulation No 31 for the maximum permitted residue levels for pesticides in food

Despite the huge legislation

- The results are poor - no data are published
- And which is more - only scant and contradictory information could be found even after official request

Finally the new Food Law will
solve the problem?



We Hope So. . . .

Monitoring Data



Pesticides/commodity
analyzed during the period
2004-2006

- (a) pears, potatoes, carrots, peaches,
- (b) cabbage, peppers, grapes, cucumbers, peas;
- (c) apples, tomatoes, lettuce, strawberry;
- (d) wheat, (including treating)

Pesticide	Year 2004	Year 2005	Year 2006
Abamaktin	(c)	(a)	(b)
Azoxistrobin	(c)	(a)	(b)
Pesticides from the group of Benomil	(c, d)	(a, d)	(b)
Br-ptopilat	(c)	(a)	(b)
Chlortalonil	(c)	(a)	(b)
Chlorpiriphos	(c, d)	(a,d)	(b)
Chlorpiriphos-methyl	(c, d)	(a,d)	(b)
Cipermetrin	(c, d)	(a,d)	(b)
Deltametrin	(c, d)	(a,d)	(b)
Diazinon	(c)	(a)	(b)
Di-chlor-phluand	(c)	(a)	(b)
Dimetoat	(c)	(a)	(b)

- (a) pears, potatoes, carrots, peaches,
- (b) cabbage, peppers, grapes, cucumbers, peas;
- (c) apples, tomatoes, lettuce, strawberry;
- (d) wheat, (including treating)

Pesticide	Year 2004	Year 2005	Year 2006
λ-Cihalotrin	(c)	(a)	(b)
Malation	(c)	(a)	(b)
Pesticides from the group of Maneb	(c)	(a)	(b)
m-Midophos	(c)	(a)	(b)
Methalaxil	(c)	(a)	(b)
Methomyl	(c)	(a)	(b)
Miklobutanil	(c)	(a)	(b)
Paration	(c)	(a)	(b)
Permetrin	(c)	(a)	(b)
Pyrimiphos Methyl	(c, d)	(a, d)	(b)
Procimidon	(c)	(a)	(b)
Prolizamid	(c)	(a)	(b)

- (a) pears, potatoes, carrots, peaches,
- (b) cabbage, peppers, grapes, cucumbers, peas;
- (c) apples, tomatoes, lettuce, strawberry;
- (d) wheat, (including treating)

Pesticide	Year 2004	Year 2005	Year 2006
Vinklozolin	(c)	(a)	(b)
2,4 - D	(d)	(d)	
Dikamba	(d)	(d)	
Carbaril	(d)	(d)	
2M - 4X	(d)	(d)	
Pyrazophos	(d)	(d)	
Propiconazol	(d)	(d)	
Tiabendazol	(d)	(d)	
Tiophanat-methyl	(d)	(d)	
Triadimenol	(d)	(d)	
Triadimephon	(d)	(d)	

- (a) pears, potatoes, carrots, peaches,
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- (c) apples, tomatoes, lettuce, strawberry;
- (d) wheat, (including treating)

Pesticide	Year 2004	Year 2005	Year 2006
Phenphlarat	(d)	(d)	
Phenitrotion	(d)	(d)	
Phozalon	(d)	(d)	

Pesticide residue in Food from Plant Origin - Year 2004

Ministry of Health:

Ministry of Agriculture

Number of samples - 191

Number of samples - NA

Number of analyses - 5348

Number of analyses - 1943

Above MRLs - 9.9 %

No detectable residues in ...

Below MRLs - 68.6 %

99.79% !!! 😊

Not detectable residues in
21.5 %

Pesticide residue in Food from Plant Origin - Year 2005

Ministry of Health:

no data available

Ministry of Agriculture

- Total number of samples 230
- Number of analyses 6900
- Above MRLs -14.8 %
- Below MRLs - 36.1%
- Not detectable residues in 49.1 %

Ministry of Agriculture - 2005

Commodity	No of samples	\geq MRLs	\geq MRLs	\leq MRLs	\leq MRLs	Not detectable residues	
		No	%	No	%	No	%
tomatoes	59	9	15.2	30	50.8	20	34
potatoes	50	17	34.0	3	6.0	30	60
spinach	20	2	10	-	-	18	90
carrots	30	-	-	-	-	30	100
peaches	23	-	-	20	87.0	3	13
cherries	48	6	12.5	30	62.5	12	25
TOTAL	230	34	14.8	83	36.1	113	49.1

Ministry of Agriculture - 2005

- 49 % of all samples contained no detectable residues
- 36.1% of the samples contained residues that were below of the maximum residue limits (MRL)
- In 14.8 % of all samples, residues above the MRL were found.
- 13 active bases were found in the samples.

The most often detected pesticides were

- From the group Maneb - 31.3%
- Vinklozolyn - 11.3%;
- Benomil (benzimidazols) - 10.9% ;
- Procimidon - 8.3%,
- Cipermetrin - 4.8%
- Dimetoat - 4.8%,
- Chlorpirifos - 3.9%
- Brompropialt - 1.3%
- Mikloputanil - 1.3%
- Other pesticides - below 1%

Samples with residues of more than one pesticide

- 65 numbers of all 230 samples (28.3 %) contained only one pesticide
- 39 numbers (17.0 %) contained two pesticide residue
- 10 numbers (4.3 %) - residue of three pesticides
- 3 numbers (1.3 %) - residue of 4 pesticides

By Group of products, where different pesticides were found:

- Tomatoes - ditiocarbamates; benzimidazols, vinklozolyn, procimidon, iprodion, chlorpirifos
- Potatos - ditiocarbamates, cipermetrin
- Spinach - ditiocarbamates
- Peaches - ditiocarbamates; benzimidazols, procimidon, cipermetrin, chlorpirofos
- miklobutanil, hexakonazol, λ -cihalotrin and diphenkonazol.
- Cherries - ditiocarbamates; benzimidazols, procimidon, brompropilat, dimetoat

The "clean" products

- Not one of carrots sample was detected to contain pesticide residue
- In all samples of peaches pesticide residues were below the MRL

The risky products

- Tomatoes - 9 samples (15.2% of all 59 samples) - vinklozolyn
- Potatoes -17 samples (34% of all 50 samples) - ditiocarbamates
- Spinach - 2 samples (10 % of all 20 samples) - ditiocarbamates
- Cherries - 6 samples (12,5 % of all 48 samples) - ditiocarbamates and procimidon



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Thank you for your attention!