

# **Pesticide residues in products of plant origin – 2005, Hungary**

*János Pál*  
*Clean Air Action Group*

**Seminar**  
*Pesticide Residues in Food –  
Regulation, Monitoring, Policy*

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# The monitoring system

## Competent authority:

**Service for Plant Protection and Soil Conservation**

**8 regional analytical laboratories coordinated by the Central Service**

**Main detection methods: GLC, HPLC and TLC**

**All of the laboratories accredited by OECD-GLP quality assurance system**

## Quality (by the 7. European Proficiency test):

**128 European labs was participating in the test,**

**5 of the 8 hungarian labs was in the best 17**



# Methods of the monitoring

**Measured crops spectrum determined by the excise patterns.**

**Special attention for the firstlings.**

**The sampling areas:**

- on the fields after the harvest
- on the markets
- on the border stations (import)
- in wholesale trade chains

**Testing totally 196 different active ingredients.**

**Totally 53 different crops measured**

**(31 vegetables, 16 fruits, 6 field crops)**



## Categories of the samples by the origin

	No. of samples	No. of tests	% of national sampling	% of total samples
<b>Market</b>	<b>1 248</b>	<b>42 332</b>	<b>33.8</b>	<b>25.3</b>
<b>Field</b>	<b>801</b>	<b>19 756</b>	<b>21.7</b>	<b>16.2</b>
<b>Export</b>	<b>20</b>	<b>365</b>	<b>0.5</b>	<b>0.4</b>
<b>Total domestic products</b>	<b>2 069</b>	<b>62 453</b>	<b>56.0</b>	<b>41.9</b>
<b>Import</b>	<b>1 624</b>	<b>68 646</b>	<b>44.0</b>	<b>32.9</b>
<b>EU monitoring</b>	<b>163</b>	<b>5 174</b>		<b>21.9</b>
<b>Other (env.)</b>	<b>1 083</b>	<b>16 593</b>		<b>3.3</b>
<b>Total</b>	<b>4 939</b>	<b>152 866</b>		

# Pesticide residues in domestic products

- **62.4% of the 2069 samples didn't contain pesticide residues in detectable concentration**
- **36.1% of the samples contain pest. res. under the MRL**
- **1.2% (25 samples) contain pest. res. above the MRL**
- **0.3% (7 samples) contain illegal active ingredients in the measured crop**



# Multiple residues in domestic products

From 1732 domestic samples 42.8% contaminated:

- 25.5% contain 1,
- 9.4% contain 2,
- 6.4% contain 3,
- 1.5% contain 4,
- 1.0% contain 5,
- 0.3% contain 6,
- 0.5% contain 7 active ingredients.



# Multiple residues in domestic products

	No. of samples	samples with residues	Number of detected active ingredients						
			1	2	3	4	5	6	7
<b>Apple</b>	<b>232</b>	<b>164</b>	<b>66</b>	<b>38</b>	<b>32</b>	<b>10</b>	<b>10</b>	<b>2</b>	<b>6</b>
<b>Lettuce</b>	<b>163</b>	<b>89</b>	<b>47</b>	<b>17</b>	<b>14</b>	<b>8</b>	<b>3</b>		
<b>Apricot</b>	<b>41</b>	<b>36</b>	<b>12</b>	<b>16</b>	<b>8</b>				
<b>Pear</b>	<b>28</b>	<b>23</b>	<b>5</b>	<b>8</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>2</b>	
Green pepper	128	47	31	11	4	1			
Tomato	141	65	43	14	7			1	
Sour cherry	44	7	5	2					
Potato	31	2	2						
Cucumber	123	41	26	12	3				

# Measured import products

**1624 samples from 36 country (~60% from the 6 largest)**

- **Spain (279 samples, 16 crops)**
- **Marocco (237 samples, 6 crops)**
- **Turkey (223 samples, 21 crops)**
- **Italy (170 samples, 22 crops)**
- **Greece (58 samples, 9 crops)**
- **Republic of South Africa (54 samples, 8 crops)**

**Measured crops:**

- **tropical fruits 40%**
- **other fruits 20%**
- **vegetables 40%**





# Pesticide residues in imported products

- **37.9% of the 1624 samples didn't contain pesticide residues in detectable concentration**
- **57.5% of the samples contain pest. res. under the MRL**
- **4.6% (74 samples) contain pest. res. above the MRL, 35 samples came from 1 green pepper carriage from Marocco**



# Pesticide residues in imported products

Some of the most contaminated crops

	No. of samples	Positive samples	% of pos. samples
mandarin	147	140	95.2
grapefruit	59	55	93.2
orange	120	107	89.2
lemon	198	171	86.4
grape	144	103	71.5
tomato	104	65	62.5
green pepper	322	120	37.3

# EU monitoring - 2005

**Measured crops (no. of samples) -**

**- active ingredients contain in 1 sample in average:**

**french bean (?) – 0**

**carrot (12) – 0,08**

**spinach (13) – 0,54**

**peach (52) – 0,58**

**apple (11) – 1,18**

**banana (16) – 1,31**

**orange (7) – 1,57**

**mandarin (5) – 3**

**pear (17) – 3,71**



## Residues above MRL

**In 25 domestic samples (1,2%) (2005): lettuce (6),  
Tart gooseberries (4), cucumber (4), wheat grain (3)**

**In 45 domestic samples (2,2%) (2004): apple (11), lettuce (9),  
apricot (8), green pepper (5), cucumber (4)**

**In 10 domestic samples (0,5%) (2003): tomato (5)**

**In 20 domestic samples (1%) (2002): lettuce (7),  
green pepper (4), tomato (3)**



# The most frequently found active ingredients (in domestic products)

Ditiocarbamates	189 times
<b>Carbendazim</b>	<b>87 times</b>
<b>Procymidone</b>	<b>66 times</b>
<b>Vinclosolin</b>	<b>60 times</b>
Endosulfan	58 times
Folpet	51 times
Captan	50 times

**The red ones are in the 8 hazardous pesticides.**



# The Morocco green pepper scandal

**The last years biggest pesticide residues scandal was in 2005.**

**One green pepper carriage (20 tonnes) from Morocco contain metamidofos much more higher concentration (max. conc. 5.6 mg/kg) then the MRL (0.01 mg/kg).**

**The 1st highly contaminated sample found in a routine control.**

**The majority (about 95%) of the carriage didn't get into the consumers.**



**Thank you for your attention!**

