

National Programme of Pesticide Residue Control in Plant Commodities

Mária Matušová, State Veterinary and Food Administration of the Slovak Republic

1 Legislative basis of the Programme

The National Programme of Pesticide Residue Control in Plant Commodities is based on the provisions of European and Slovak food law – (EC) Regulations of European Parliament and Council No. 178/2002 and No. 882/2004 and the Act of the Slovak National Council No. 152/1995 Coll. on Foodstuffs as amended later. Directives 86/362/EEC and 90/642/EEC (and their supplements and amendments) were transposed into the Slovak food legislation - Food Codex of the SR - Decree of the Ministry of Agriculture and Ministry of Health of the Slovak Republic No. 11968/2006-SL of May 3, 2006 whereby the Chapter 11 of Second Part of Food Codex of the SR was issued, governing residue levels of the plant protection products. Another important support of this programme is Commission Recommendation 2006/26/EC of January 18, 2006 concerning a coordinated Community monitoring programme for 2006 to ensure compliance with the maximum pesticide residue limits in and on cereals and certain other products of plant origin and national monitoring programmes for 2007.

2 Organization and implementation of pesticide residue control in plant commodities

The organization of pesticide residue control shall be performed as follows:

- State Veterinary and Food Administration of the Slovak Republic – programme preparation, methodical management of involved sides and evaluation of the programme;
- Regional Veterinary and Food Administration (8) – programme coordinator;
- District Veterinary and Food Administration (40) – programme realizer (sampling, control, imposing of measures at levels exceeding the MRL);
- State Veterinary and Food Institute Bratislava – sample analyses.

For the purposes of District Veterinary and Food Administrations (DVFAs), the State Veterinary and Food Administration of the SR shall issue an implementary methodical instruction to the above Programme. Within this instruction, the total number of planned samples shall be allocated among all DVFAs. The instruction shall also include a weekly schedule of sampling for respective DVFAs.

3 Criteria adopted for sample selection and number of samples

The selection and number of samples have been based on the following criteria:

- Consumption of a given commodity in Slovakia
- Production or import volume of a given commodity in Slovakia
- Evaluation of pesticide residues analyses from the previous periods
- Outputs from RASFF Notification Database for 2004 and 2005
- Analytical capacities of diagnostic laboratory

For 2006, the programme of pesticide residue control in plant commodities has been drawn up in such manner as to include the majority of crops important from a viewpoint of pesticide residue incidence and which are readily available to the consumer. In general, as in the last year, we have preferred the primary production to the technologically treated foodstuffs.

4 Sampling plan according to the kind of products and their origin

For 2006, the taking of 1050 fruit, vegetable and cereal samples has been planned under following structure:

- 40% - samples of domestic production;
- 30% - samples from EU countries;
- 30% - samples from third countries.

EU monitoring samples are included in the above number as well – Commission Recommendation 2006/26/EC.

5 Conditions for sampling and sample analyses

Sampling shall be performed according to the Commission Directive 2002/63/EC of July 11, 2002 governing sampling methods for the control of pesticide residues in and on foodstuffs of plant and animal origin that was transposed into the Food Codex of the SR – Annex No. 7 of the Decree of the Ministry of Agriculture and Ministry of Health of the Slovak Republic No. 11968/2006-SL of May 3, 2006 whereby the Chapter 11 of Second Part of Food Codex of the SR was issued, governing residue levels of the plant protection products.

The samples for pesticide residue examination in plant commodities shall be taken within the food supervision at following places:

- dispatch store of the grower;
- distribution centres – wholesale warehouses;
- producer – packing premises;
- control of import from third countries;
- retail (preferentially supermarkets and hypermarkets).

The State Veterinary and Food Institute in Bratislava shall examine all plant commodity samples for incidence of pesticide residues.

6 Methods of pesticide residue analysis and the list of examined pesticides

For the samples under the food supervision the State Veterinary and Food Institute in Bratislava mainly applies a multiresidual analytical method (MRM) that is effective, and budget priced. The principal of this method is extraction into ethylacetate followed by purification using gel permeation chromatography in ethylacetate/cyclohexane system or extraction into acetonitril followed by purification with sorbent - QuEChERS method. The majority of monitored pesticide residues has been analysed by such system. The detection is performed using gas chromatography with ECD, FPD and NPD. The positive results are confirmed with MSD or MS-MS or column of different polarity. An alkali modification of this method with measurement in HPLC/DAD/FLD system is used for fungicides and insecticides of benomyl group, thiabendazol, carbaryl, imidacloprid and pyrethrins. LC-MS-MS method is used for determination of pesticide group carbamates (aldicarb, methomyl, primicarb and their metabolites). A single method of derivatization to CS₂, followed by GC/ECD detection is used for determination of maneb group. In all taken samples the multiresidual method shall be used for pesticide residue analyses. The single methods shall be used for analyzing of selected commodities only.

The quality assurance of analytical methods is in compliance with requirements of SANCO/10476/2003 Document.

The State Veterinary and Food Institute in Bratislava has two accreditation certificates – Accreditation Certificate No. 050/S-105 of December 27, 2002 for the Laboratory with location address Priemysel'ná ulica and Accreditation Certificate No. 050/S-127 of January 30, 2003 for the Laboratory with location address Botanická ulica. The Slovak National Accreditation Service (SNAS) according to the standard STN EN ISO/IEC 17 025 issued the both certificates.

7 Measures to be taken within the valid legislation in samples exceeding the MLR level

At levels exceeding a maximum residue limit (MRL), the respective District Veterinary and Food Administrations shall act pursuant to the valid Slovak and European food legislation, i.e. Act No. 152/1995 Coll. on Foodstuffs as amended later and Regulation No. 178/2002 of the European Parliament and Council.