• CHEMICAL RISK FACTORS

Chemical substance

On June 1, 2007, a new EC Regulation 1907/2006 became effective in all EU member states. This legislation addresses registration, evaluation, authorisation, and restriction of chemical substances (REACH) and also establishes the European Chemical Agency. This legislation amends and supplements Directive 1999/45/EC and supersedes Council Regulation (EEC) 793/93 and Commission Regulation (EC) 1488/94, Council Directive 76/769/EEC, and Commission directives 91/155/EEC, 93/67/EEC, 93/105/EC, and 2000/21/EC (hereinafter only „the REACH regulation“).

Changes emanating from the amendments to Directive 67/548/EEC were transformed and subsequently implemented by the Ministry of Economy into the Slovak legal system through novelization of Act 163/2001 Coll. on chemical substances and chemical compounds as amended. (Act 405/2008 Coll.)

The **Rotterdam Convention** on prior informed consent procedure for certain hazardous chemicals and pesticides in international trade is a major international law instrument to improve international regulation of trade with certain hazardous substances and pesticides. This Convention entered in effect for Slovakia on April 26, 2007.

In 2008 works on the preparation of a new directive were carried out, with active participation of the Ministry of Environment together with the Ministry of Economy. In June 2008 the Official EU Journal published a new EP Directive (EC) 689/2008 on export and import of dangerous chemicals.

SAICM

Ministry of Foreign Affairs of Slovak Republic nominated the Ministry of Environment to be the national contact site for Strategic approach to international chemicals management (SAICM) in Slovakia. In 2008, MoE SR was involved in preparing the strategy and participated in workshops of the SAICM organizations.

Xenobiotics in the food chain

Volumes of xenobiotic substances in foods are regulated by limits published in the Slovak Food Code and compatible with the EU limits.

Monitoring of the cccurrence of xenobiotic substances in the components of environment and the products of agricultural and food production is carried out in two ways – through a random control, and a regular monitoring.

Testing for xenobiotics is carried out by testing organisations under the valid legislation, with the goal to prevent the flow of unacceptable foods to the consumer. Results from the tests serve as the basis for adopting immediate decisions.

Monitoring of xenobiotics collects information on the status and trends in pollution of individual components of environment, as well as information on health safety of local foods. Results from the monitoring, including the risk assessment, serve as a basis for adoption of preventive measures.

- **Monitoring of xenobiotics in the food chain**

Partial monitoring system called: **Xenobiotic in foods and forage** is composed of three subsystems:

- Co-ordinated focus-specific monitoring (CFM) has been used since 1991
- Consumption pool monitoring (CPM) has been used since 1993
- Monitoring of game, wildlife, and fishes (MGF) has been implemented since 1995

Partial monitoring system has been connected to the GEMS/FOOD EURO international monitoring system since 1994.

Coordinated focus-specific monitoring (CFM) has the objective to determine actual mutual relationship between the degree of contamination of agricultural land, irrigation water, feeding water, crop and animal production, within the primary agricultural production, and obtain information on the contamination of individual food chain components.

36 088 samples were extracted over the entire monitored period (17 years), containing **2 461** limit-exceeding samples, which represents **6.8 %.** Monitoring was carried out for 810 agricultural subjects (in 75 districts), analyzing soil samples from 478 287 ha.

Most limit-exceeding samples were detected **in water** (mainly nitrites and nitrates) and **in forage.** (nitrites) **Since 1991,** soil contamination balance showed significant improvement, with decreased average contents of **mercury** and **arsenic** in 2007. On the contrary, average detection and number of limit-exceeding soil samples for **cadmium** and **lead** increased. In case of water for animal feed, non-compliant values were detected for nitrates as well as nitrites; however, the number of limit-exceeding samples dropped. Irrigation water did not show a single event of limit-exceeding values. For the first time, forage showed limit-exceeding values in 2007. Contents of PCB also show positive balance as there were no limit-exceeding samples detected in 2005 - 2007.

In 2007, total number of **1 634 samples** were extracted from 596 hunts and subsequently analysed for content of chemicals, PCB, nitrates, and nitrites. Monitoring was implemented for 47 agricultural subjects in 39 districts, with analysis of the soil samples from 25 781 ha, including the crop produced from this soil.

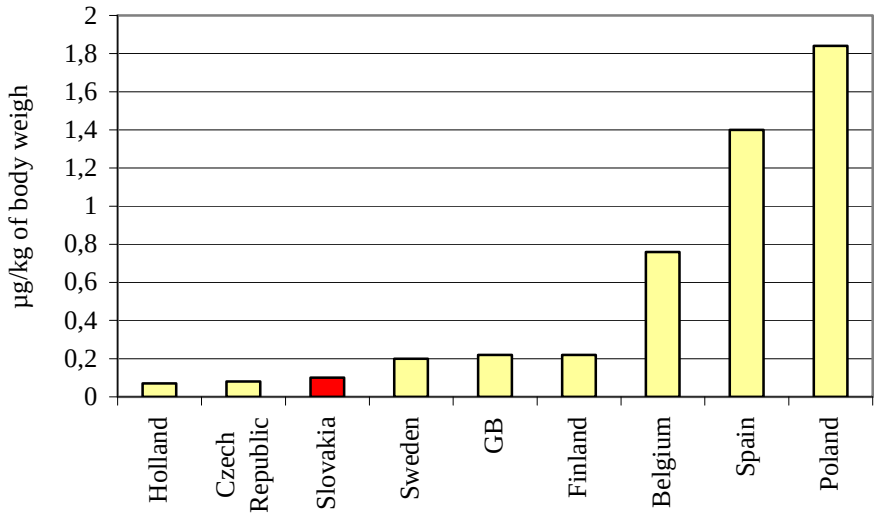
Comparison of contamination of individual commodities suggests that the limit-exceeding samples in 2007 were detected in water for animal feed, contributed to by nitrites and nitrates, while cadmium, lead, and nickel were found in soil.

Objective of the **Consumption pool monitoring (CPM)** is to obtain data on contamination of foods within the consumer network and subsequently assess exposition of the population to the monitored contaminants. Samples are purchased from the commercial network twice a year (May, September) at 10 Slovak sites.

Over the period of **fifteen years, 10 984 samples** were analysed, including **501** samples, i.e. **4.6 %** that exceeded permitted limit values, especially in nitrates and chemical elements.

Consumption pool in **2007** included 26 basic foods. (by statistical consumption) Samples of drinking water from public sources were not monitored in the given year. **607 samples** were analysed, including **7** samples (i.e. **1.2 %)** that were unacceptable.

Comparison of the weekly absorption of mercury by the human organism between Slovakia and other world countries



Source: FoRI SR

Compared with available international data, the SR may be considered among countries with **lowest values** of weekly intake of arsenic, cadmium, mercury, chrome, nickel, lead, and nitrates by the human organism.