



## **Monitoring ostankov pesticidov v sadju in zelenjavi (1996 – 2001) na Poljskem**

Anna NOWACKA

Plant Protection Institute, ul. Miczurina 20, 60-318 Poznań, Poland

Monitoring za ostanke pesticidov v pridelkih je bil l. 1971 izdelan na Inštitutu za varstvo rastlin - Plant Protection Institute (PPI) v sodelovanju z UNDP/FAO. Monitoring se izvaja od l. 1995, pod nadzorom Glavnega inšpektorata za varstvo rastlin - Main Inspectorate of Plant Protection (MIPP). V monitoring je vključenih 6 laboratorijev omenjenega inštituta. Program monitoringa vključuje pesticide, ki jih pridelovalci na Poljskem največ uporabljajo in pridelke, ki so za prehrano bistvenega pomena, s poudarkom na pridelkih iz intenzivne pridelave (iz rastlinjakov in sadovnjakov). Na področju vse države letno naključno vzamejo približno 2200 vzorcev pridelkov. Vzorce zbirajo strokovnjaki iz območnih enot inšpektorata. Vzorce analizirajo takoj, ko je mogoče, najpozneje v 3-4 tednih. Rezultate analiz na ostanke zbirajo deželni inšpektorati provinc - Province Plant Protection Inspectorates (PPPI). V primeru, da ostanki presegajo najvišjo dovoljeno mejo (MRL), so laboratoriji dolžni o tem takoj obvestiti PPPI in MIPP. Končno poročilo o monitoringu konec leta oddajo na MIPP.

Od 1996-2001 je bilo zbranih 13 406 vzorcev pridelkov iz domače pridelave. Monitoring je obsegal 31 vrst pridelkov in 89 pesticidov. 21 % analiziranih vzorcev je vsebovalo ostanke pesticidov. Najdenih je bilo 60 aktivnih snovi. Ostanke so našli predvsem v zelenjavi iz rastlinjakov (27 %) in sadju (27 %), redko pa v zelenjavi s polja (13 %) in drugih pridelkih, npr. koruzi in krompirju (4 %). Največkrat so ostanke našli v vzorcih malin (51 %), paradižnika iz rastlinjakov in s polja (41 in 43 %), jagodah (38 %) in ribezu (33 %). Ostanke enega pesticida so bili najdeni v manj kot 10 % vzorcev posameznih pridelkov. Le ostanke ditiokarbamatov, klortalonila, procimidona, tolilfluanida, diklofluanida, endosulfana, MBC in linurona so večkrat našli v vzorcih iste vrste pridelkov. Glede na veljavne predpise na Poljskem, je bila vsebnost ostankov pesticidov čez dovoljeno mejo v 0,8 % vzorcev, po EU direktivah pa je bilo kršitev več (2,2 %).

### **ABSTRACT**

#### **Polish Monitoring of Pesticide Residues in Fruit and Vegetables (1996-2001)**

Polish monitoring of pesticide residue in crops was established in Plant Protection Institute (PPI), in 1971, as a result of co-operation with UNDP/FAO. Since 1995, along with implementation of Act on Plant Protection, the monitoring has carried out on behalf of The Main Inspectorate of Plant Protection (MIPP).

At present, six laboratories of Plant Protection Institute participate in the monitoring. Monitoring programme includes pesticides the most commonly used by Polish farmers and crops which are essential for the diet, but special priorities have crops intensively protected such as greenhouse and orchard crops. Yearly, ca. 2200 samples of mature crops are randomly taken from the production sites on the territory of the whole country by the trained staff of the local plant protection inspectorates. Samples are analyzed as soon as possible, at the latest in 3-4 weeks. The reports on the residue study are sent to Province Plant Protection Inspectorates (PPPI)

successively. In case of detection of residues exceeding maximum residue limits (MRLs) laboratories are obligated to inform about that immediately both PPPI and MIPP. The final report on monitoring is submitted to MIPP in the end of the year.

13 406 samples of domestic crops were collected in the years 1996-2001. Monitoring encompassed 31 crops and 89 pesticides. 21% of analyzed samples contained pesticide residues. 60 compounds were detected. The residues were mainly found in greenhouse vegetables (27%) and fruits (27%), rarely in samples of field vegetables (13 %) and samples of crops like corn and potatoes (4 %). The frequency of residues occurrence was the highest in samples of raspberries (51%), field and greenhouse tomatoes (respectively 43% and 41%), strawberries (38%) and currants (33%). In the most cases the residues of one pesticide were detected in less than 10% of samples of individual crops. Only residues of dithiocarbamates, chlorotalonil, procymidone, tolylfluanid, dichlofluanid, endosulfan, MBC and linuron were more often found in samples of the same kind. Violations of Polish MRLs contained 0.8% of samples, but taking into account EU Directives (Council Directives 76/895/EEC, 86/362/EEC, 90/642/EEC) violations of MRLs were a bit more (2.2%).