

## MONITORING OF PESTICIDE RESIDUES IN SUNFLOWER HONEY

**Modvala Susana**

*Technical University of Moldova, Chisinau, Republic of Moldova*

E-mail: susana.modvala@mpasa.utm.md

Nowadays, the beekeeping material is produced in an environment contaminated with various pollutants. The application of pesticides to crops can pollute the soil, air, water and also the flowers from which bees collect nectar for honey production, which can lead to the presence of those toxic chemicals in the food chain, affecting the health of both humans and bee families.

Determining pesticide residues in honey at the impact level is a difficult task because of the complex matrix of honey and its high sugar content.

Organochlorine pesticides are lipophilic substances and are therefore soluble and stable in beeswax. Thus, a quantity of these substances gradually migrates from the wax into the stored honey.

Honey samples from private apiaries in the North and South of the Republic of Moldova were used as research material. For the achievement of the proposed objectives, the tests for the detection of residues were carried out in the Laboratory for testing of agri-food products of the State Enterprise „Centre for Applied Metrology and Certification”.

The detection of pesticide residues was carried out by chromatographic method from honey samples exposed for analysis.

Physico-chemical indices of honeys from Sample 1 meet the legislative requirements for - Natural honey, but the water content in honey from Sample 2 is 2% higher than the norms in force, according to HG1191 of 23.12.10, RS, chapter III, point 8, subpoint b, de facto.

In the honey samples submitted for examination the residues of aldrin, dieltrin, endosulfan, Heptachlor and HCH were lower  $< 0.01$ , which denotes that they are within the maximum permissible limits.

Honey is a product in demand by a wide range of people of different ages. For this reason, harmlessness is of great importance. This is also explained by the answers of the respondents who stated 17% that this product is offensive to pesticides, 3% that pesticides are harmless and 2% stated that pesticides have a neutral influence on honey.

A vast majority of farmers rarely use pesticides when growing sunflower crops, this is explained by the fact that the population is oriented towards consuming organic production that is beneficial to the body. This is also reflected in the statements of the interviewees who stated that 12% use pesticides in rare cases, 5% when necessary and 3% stated that they do not use pesticides in agriculture.

**Keywords:** *bee families, honey, pesticide residues, respondents.*