SUMMARY

Investigation of Sulphonamide Residues within Honey Consumed in Aegean Region

Following The European legislation Maximum Residue Limits are fixes for anti-infectious agents in honey and therefore the use of antibiotics is not acceptable in apiculture. It is already known that the illegal use of “sulphonamid group antibiotics” is common in beekeeping in Turkey.

The aim of this study was to investigate the sulphonamide residues within honey consumed in the Aegean region. For this purpose, total 103 honey samples were collected from 7 cites of the Aegean region considering with the production of honey. Following method development and validation, the samples were extracted with liquid-liquid phase extraction procedure and then analyzed by High Performance Liquid Chromatography (HPLC) with post-column derivatization for the selected sulphonamides (sulphonilamide, sulphadiazine, sulphatiazole, sulphamerazine, sulphamethazine, sulphametoxazole, sulphadimetoxine).

The mean recoveries (%) were 62,37±8,01, 64,10±7,02, 62,57±6,83, 67,11±6,57, 66,94±7,57, 57,31±7,06, 53,99±7,88 and the limit of quantifications were 6,83, 5,36, 5,51, 6,67, 7,34, 5,02, 6,73 ng/g for sulphonilamide, sulphadiazine, sulphatiazole, sulphamerazine, sulphamethazine, sulphametoxazole, sulphadimetoxine, respectively. According to the results, sulphonamide residues were detected in 23% of the total 103 honey samples collected in Aegean Region. The residues detected were 68% sulphametazine, 12% sulphamerazine, 20% sulfametoksazole in positive honey samples.

In conclusion, the presence of the sulphonamide residues was high in honey samples collected in the present study. This shows that the beekeepers in Aegean Region probably use sulphonamids commonly for prophylaxis or treatment of bacterial bee diseases. To prevent this problem, the training of beekeepers, controlling of drug use and application of punishment may be useful and therefore these may contribute to the protection of public health and the economy as well.

Key Words; HPLC-FLD, sulphonamide, residue, honey.