

Determination of Pesticide Residues in Raspberry by GC/MS, LC/MS and GC/ECD/HSS

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Raspberries are one of the best known and most exported Serbian fruit. From the summer of 2009 to august 2011, more than 400 fresh and frozen samples of raspberries made in Serbia were analyzed on pesticide residues by GC/MS, LC/MS and GC/ECD/HSS in SP Laboratory, Bečej.

Sample preparation was done using two methods (by QuEChERS-method [1] and for determination of dithiocarbamates [2]). Prepared samples were analysed on 400 different pesticide residues.

In more than 100 samples we have determined pesticides residues. About 15% of samples had more than 1 and about 9% of samples had 4 different pesticide residues. The most commonly used pesticide was Cyprodinil. The concentration of pesticide residues were lower than the MRL, in accordance with Serbian and EU legislation, except for the 6 samples of raspberries in which the concentration of dithiocarbamate pesticide residues were above the MRL.

Reference:

[1] BS EN 15662:2008 Foods of plant origin. Determination of pesticide residues using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE. QuEChERS-method

[2] SRPS EN 12396-2:2008 Non-fatty foods - Determination of dithiocarbamate and thiuram disulfide residues - Part 2: Gas chromatographic method