

How safe is Traditional Chinese Medicine?

- Series 1: Quality control of Traditional Chinese Medicine due to the contamination of pesticide residues

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There are various different ways for traditional Chinese herbal medicine (TCM) to enter the European market. The separation line between food and herbal medicine is unclear and handled differently in every country. A range of traditional Chinese herbal medicine includes extracts, classical formulas, and the special receipt based on the specific TCM functions and indications. Due to the different regulation in every European country, the number of TCM products in the market, which are tested to fulfill the European regulations (e.g. European Pharmacopoeia), is small.

More than 10 thousand batches of Chinese herbal drugs have been analyzed in our laboratory concerning purity and assay. In the last 4 years the contamination of pesticide residues has increased. This is possible because pesticide is increasingly used in China. The contamination between raw herbs and granules is also very different. The reason for this difference is caused by the manufacturing process, through decoction many pesticides may be destroyed. Most methods of pesticide screening are using GC-MS and LC-MS/MS method. Measured by LC-MS/MS, there were more pesticides found which cannot be detected with GC-MS.

Figure 1: Comparison of pesticide residues between granules and raw herbs of TCM drugs.

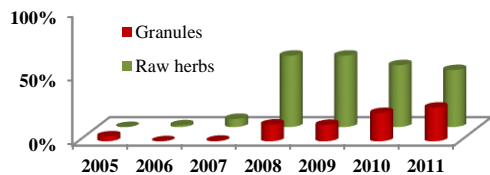


Figure 2: Comparison of pesticide residues of granules between the pesticide groups.

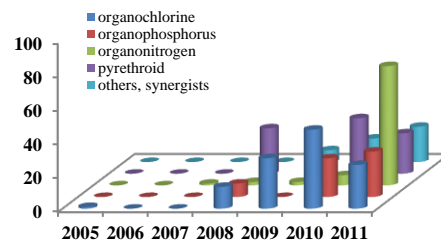


Figure 3: Comparison of pesticide residues of raw herbs between the pesticide groups.

