

Modification of QuEChERS method to obtain reduced matrix interferences in full scan GC-MS analysis of cereals

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Cereals often give interfering peaks originating from fatty acids and their alkyl esters. The amount of interferences can be so high, that in addition to mask the target pesticides, the retention times increases and makes identification difficult. Standard QuEChERS cleanup with 25 mg/ml of PSA/ml of acetonitrile extract, or increasing the amount of PSA up to 300 mg/ml is not enough to remove the fatty acids. By adding calcium chloride to the extract, the polarity was changed in such a way that the polar pesticides were recovered in acceptable rates and fatty acids were not coextracted. By also include a freeze out step more unpolar fatty acid alkyl esters and plant sterols was removed.