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Screeningofochratoxin A and B contaminated in dried chili using HPLC-fluorescence and liquid-liquid extraction

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Abstract: The aim of this study was validate method and simultaneously screen mycotoxins, ochratoxin A (OTA) and ochratoxin B (OTB), in dried chili and dried chili powders using High performance liquid chromatography with fluorescence detection (HPLC–FLD) and liquid-liquid extraction.Diflunisal was used as internal standard for validation method. Linearity, average recovery, limit of quantitation (LOQ), limit of detection (LOD) and precision were established validation parameters. The results showed that linearity in range 0.5- 100 ng/kg has R^2 more than 0.9950, average recovery was 87.06 – 94.86%, LOQ was 0.5 and 0.75 ng/kg and LOD was 0.25 and 0.50 ng/ kg for OTA and OTB, respectively while precision was shown asHorrat's ratio with the value less than 2. Sixty eight samples of dried chilies and dried chili powder were bought in local Chiang Mai markets during March and April 2016. The samples were extracted 3 times using ethyl acetate and the extract was screened for the OTA and OTB levels. It found that only 5 samples were contaminated both the OTA and the OTB but the levels were lower than permissible limits established by European Unit (EU), indicating that they were safety for consumers. The others samples, five dried chili powers were contaminated with the OTA in higher level than the permissible limits established by EU. This validated method is suitable for quantifying the OTA and OTB. However, the positive screening should be confirmed with solid phase extraction or another HPLC condition for confirming the OTA and OTB levels.
Keywords: OchratoxinA,Ochratoxin B, Chili, HPLC-FLD.

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