

A NEW METHOD OF DETECTING TRICHOHECENE MYCOTOXINS BY USING SENSITIVE THIN-LAYER AND LIQUID CHROMATOGRAPHY

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Abstract

Diphenylindene sulphonyl (Dis) esters of trichothecene mycotoxins when sprayed with sodium methoxide showed fluorescent spots on a thin layer of silica gel when viewed under long-wavelength UV light. The detection limit for trichothecene esters in thin-layer chromatography (TLC) was 20-25 ng per spot for T-2 toxin, HT-2 toxin, diacetoxyscirpenol, T-2 triol, T-2 tetraol and iso-HT-2 toxin. A quantitative high-performance liquid chromatographic (HPLC) analysis of Dis-trichothecene esters was also developed using UV detection at 278 nm. The detection limit for the above esters varied between 30 and 50 ng per injection. This sensitive TLC-HPLC method is very useful for in vivo pharmacokinetic analyses of trichothecenes.

Key words: mycotoxins, TLC, HPLC