

UNIVERSITI TEKNOLOGI MARA

**SIMULTANEOUS DETECTION OF FUMONISIN B1,
FUMONISIN B2 , T-2, HT-2 IN RICE USING
HPLC-ESI-MS/MS**

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the degree of
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Declaration by Student

Project entitled “**Simultaneous Detection of Fumonisin B1, Fumonisin B2 , T-2, HT-2 In Rice Using HPLC-ESI-MS/MS**” is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of **Dr. Mehdi Sameni** as Project Supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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ABSTRACT

Simultaneous Detection Of Fumonisin B1, Fumonisin B2 , T-2, HT-2 In Rice Using HPLC-ESI-MS/MS

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A high performance liquid chromatography – electrospray ionization - tandem mass spectrometry (HPLC-ESI-MS/MS) method is described for simultaneous determination of fumonisins (FB1 and FB2), T-2 and HT-2 toxin in rice. Mycotoxins were separated by reverse phase liquid chromatography and detected in positive ion modes. The mean recoveries of FB1, FB2, T-2 and HT-2 from spiked rice sample ranged from 85.25% to 92.16%, whereas the limit of detection (LOD) and limit of quantification (LOQ) are 15 ng/g and 45 ng/g, respectively. The developed method was applied for the determination of selected mycotoxins in 96 rice samples collected from Selangor state, Malaysian. Although almost 15% of rice samples were contaminated with at least one of this mycotoxins, only 14.6 % of rice samples were positive at level greater than the LOQ. However, the samples are not exceeding the European regulatory limits.

Keywords: HPLC-ESI-MS/MS, Fumonisins, T-2, HT-2, LOD, LOQ