

**QUALITATIVE ANALYSIS OF CAPSICUM USING
SOLID PHASE MICROEXTRACTION (SPME) COUPLED
WITH GAS CHROMATOGRAPHY MASS
SPECTROMETRY DETECTOR (GC-MSD)**

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ABSTRACT

QUALITATIVE ANALYSIS OF CAPSICUM USING SOLID PHASE MICROEXTRACTION (SPME) COUPLED WITH GAS CHROMATOGRAPHY MASS SPECTROMETRY DETECTOR (GC-MSD)

A simple method for the qualitative analysis of capsaicin, the active component in capsicum, in five different types of capsicum by using solid phase microextraction (SPME) coupled with gas chromatography mass spectrometry detector (GC-MSD) was developed. Direct immersion mode of SPME was employed and the parameters; extraction temperature, extraction time and desorption time were optimized based on the peak area of capsaicin. The study found that the optimum conditions in extracting the capsaicin in capsicum were at 60°C extraction temperature, 20 minutes extraction time and 3 minutes desorption time. The red *Capsicum annuum* 'Thai Bird's Eye pepper' has the relatively highest amount of capsaicin which was $1.6089\text{E}9 \pm 0.200\text{E}9$ (11.0%), followed by red *Capsicum frutescens* 'Tabasco pepper', green *Capsicum frutescens* 'Tabasco pepper', green *Capsicum annuum* 'Thai Bird's Eye pepper' and lastly green *Capsicum annuum* 'Cayenne pepper' which were $0.1493\text{E}9 \pm 0.058\text{E}9$ (34.4%), $0.1390\text{E}9 \pm 0.053\text{E}9$ (34.4%), $0.1313\text{E}9 \pm 0.001\text{E}9$ (0.80%) and $0.0195\text{E}9 \pm 0.003\text{E}9$ (15.4%), respectively.