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## Carotenoid content in different locality of pumpkin (*Cucurbita moschata*) in Malaysia (Article)

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### Abstract

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Pumpkin is believed to have health benefits due to its carotenoid content. Carotenoids are bioactive compounds with pharmaceutical potential. Carotenoids compound such as  $\alpha$ -carotene and  $\beta$ -carotene react as provitamin A in human body, while lutein and zeaxanthin are two major components of the macular pigment of the retina. There are many extensive research has been done to study the benefit of these compounds to improve the nutritional value either for human consumption or commercialization purposes. The aim of this study is to identify the carotenoid content in pumpkin from five different localities in Malaysia. Carotenoid content in fruits and vegetables varies due to certain factors such as variety, level of maturity, climate or geographic site of production, part of the plant utilized, environment conditions during agricultural production, post-harvest handling, processing, and storage conditions. Based on these factors, measures could be taken to identify the individual carotenoid concentrations. In this study, pumpkins from Kelantan, Terengganu, Perak, Kedah and Melaka were analyzed. HPLC analysis was conducted to analyse the individual carotenoid in pumpkin. The individual carotenoids detected were  $\alpha$ -carotene; which ranged from 1.26 mg/100g to 10.20 mg/100g,  $\beta$ -carotene; 29.16 mg/100g to 154.76 mg/100g and small amount of lutein were detected ranged from 0.22 mg/100g to 0.46 mg/100g. However lutein compound was not detected in pumpkin from Perak. The retinol equivalent was also calculated.

### Author keywords

Carotenoid HPLC analysis Lutein Pumpkin  $\alpha$ -carotene  $\beta$ -carotene

### Indexed keywords

EMTREE drug terms: [alpha carotene](#) [beta carotene](#) [carotenoid](#) [retinol](#) [xanthophyll](#) [zeaxanthin](#)

EMTREE medical terms: [article](#) [climate](#) [Cucurbita moschata](#) [drug isolation](#) [environmental aspects and related phenomena](#) [geographic distribution](#) [high performance liquid chromatography](#) [Malaysia](#) [nonhuman](#) [nutritional value](#) [qualitative analysis](#) [quantitative analysis](#) [ultraviolet spectrophotometry](#)

### Chemicals and CAS Registry Numbers:

alpha carotene, 7488-99-5; beta carotene, 7235-40-7; retinol, 68-26-8, 82445-97-4; xanthophyll, 127-40-2, 52842-48-5; zeaxanthin, 144-68-3

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