Title Phenolic compounds in Chinese Brassica vegetables

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Abstract

This overview describes the qualitative and quantitative occurrence of phenolic compounds in pak choi (*Brassica campestris* ssp. *chinensis* var. *communis*) and Chinese leaf mustard cultivars (*Brassica juncea* Coss). The flavonoid derivative kaempferol-3-*O*-hydroxyferuloylsophoroside-7-*O*-glucoside and the main hydroxycinnamic acid derivative sinapoylmalate were clearly identified in the Chinese *Brassica* vegetable pak choi by NMR spectroscopy. Furthermore, MS^n data demonstrating the complexity of polyphenols in pak choi and Chinese leaf mustard cultivars were obtained and up to 40 different phenolic derivatives were identified. The main flavonoid derivatives are acylated and triglucosilated kaempferol derivatives. Malate derivatives of five different hydroxycinnamic acids are the main simple polyphenols. The high phenolic concentration in the leaf blades (1–3% of the dry matter) relative to the leaf stalks indicates the importance of characterizing specific plant parts. Food processing may also affect polyphenol content. Marked changes in the spectrum of polyphenols were observed by fermentation and indicate their degradation: The highly glycosylated flavonoid derivatives, for example, were transformed into less glycosylated compounds, which may alter their bioavailability.