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[\[PDF \(257K\)\]](#) [\[References\]](#)**Comparison of Pectins from the Alcohol-insoluble Residue of Japanese Pepper (*Zanthoxylum piperitum* DC.) Fruit, a Major By-product of Antioxidant Extraction**

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Alcohol insoluble residue of Japanese pepper fruit (*Zanthoxylum piperitum* DC.) is an underutilized by-product of antioxidants extraction. The content of the residue was 77.7 g/100 g dry material and the major component was sugars (57.3 g/100 g AIR). In addition, approximately one-fifth of total sugars were uronic acid. In this study, pectins were extracted from the by-product by sequential extraction with various reagents, and the chemical compositions of the pectins were then compared. As a result of the compositional analysis, Fourier transform infrared spectroscopy and size-exclusion chromatography, pectins obtained with water, oxalate and cold dilute alkali were low methoxyl pectins while pectins obtained with hot dilute acid were high methoxyl pectins. In addition, the sugar compositional analysis revealed that the oxalate soluble pectin consisted mostly of galacturonic acid, indicating that it was a pectic acid.

Keywords: [Japanese pepper](#), [low methoxyl pectin](#), [pectic acid](#), [sequential extraction](#), [size-exclusion chromatography](#), [Fourier transform infrared spectroscopy](#)

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