

Title The effect of polysaccharides on the astringency induced by phenolic compounds

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Citation Food Quality and Preference, Volume 21, Issue 5, July 2010, Pages 463-469

Keywords Polysaccharides; Astringency; Phenolic compounds; HPLC analyses

Abstract

The influence of food gums (guar, xanthan, arabic) and carboxymethylcellulose (CMC) on the astringency of phenolic compounds has been studied in a model system. In experiment one, the study was performed in the critical concentrations (c^*) for particular polysaccharides as well as for their concentrations above and below the c^* value. It was found that the ability of food gums and CMC to reduce the astringency of tannic acid (an astringent reference stimulus) was differential and depended both on the concentration and the type of the polysaccharide used. However, all polysaccharides revealed the highest reduction of astringency above the c^* value. Among the investigated polysaccharides the CMC above the c^* was the best astringency masker. In experiment two, the analysis of the effect of CMC on astringency of the polyphenol extracts (black chokeberry, green tea and walnut) was conducted using time–intensity (T–I) method. The results proved that the T–I parameters of astringency were significantly ($p \leq 0.001$) influenced by the addition of CMC except T_{\max} .