Title Effect of adding ascorbic acid and glucose on the antioxidative properties during storage of dried carrot

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Citation Food Chemistry, Volume 107, Issue 1, 1 March 2008, Pages 265-272

Keywords Carrot; Antioxidant; Antioxidative activity; Drying; Storage

Abstract

In this study, carrots were treated with ascorbic acid (0.1%) in a glucose (1.0%) solution (AA-Glu), and then freeze-dried and hot-air-dried to investigate the effects on their antioxidant content after 30 days of storage. The antioxidant components were extracted from the carrot samples using methanol. To assess antioxidative properties, tests measured the samples' reducing power, α,α-diphenyl-β-picrylhydrazyl (DPPH) radical scavenging activity, and ferrous ion chelating power. The above antioxidative properties of carrot extracts were compared with α-tocopherol and butylated hydroxyanisole (BHA). The analysis of antioxidant compounds included the total amount of ascorbic acid, total amount of phenolics, total amount of flavonoids, and carotenoids. The analysis showed that the samples immersed in AA-Glu solution prior to drying exhibited a higher antioxidative property than those not immersed.