

**Title** The antioxidant properties of whey permeate treated fresh-cut tomatoes  
**Author** L. Ahmed, A.B. Martin-Diana, D. Rico and C. Barry-Ryan  
**Citation** Food Chemistry, Volume 124, Issue 4, 15 February 2011, Pages 1451–1457  
**Keywords** Whey permeate; Ascorbic acid; Lycopene; Antioxidant activity; Total phenols; Minerals

#### **Abstract**

The aim of this research was to analyse the effects of three types of cheese whey permeate treatment on the antioxidant properties of fresh-cut tomatoes. Tomatoes were treated with whey permeate concentrate (PC), delactosed permeate (DP) and delactosed concentrate (DC), stored at 4 °C for 10 days and compared to samples treated with the industry standard, chlorine (120 ppm). Samples treated with DP retained significantly higher antioxidant activity (FRAP) and total phenols (TP), when compared with those treated with PC and DC. DP showed significantly higher results than chlorine for DPPH, FRAP and TP. In DPPH assay, all whey permeate-treated samples showed similar antioxidant activity, while ascorbic acid and lycopene were unaffected by treatment. Among the three whey permeates, delactosed permeate showed the best results in maintaining the antioxidant properties of tomato, suggesting it could be used to enhance the antioxidant activity of fresh-cut tomato and retain the antioxidant components during storage.