

Public Abstract

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Graduation Term:FS 2008

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Degree:PhD

Title:COENZYME Q10 CONTENT, COMPOSITION, TEXTURE AND PHYSIOCHEMICAL CHARACTERISTICS OF PASTA FORTIFIED WITH FREEZE-DRIED BEEF HEART

This study evaluated the feasibility of fortifying fresh pasta with beef heart, a beef by-product high in coenzyme Q10. Incorporating freeze-dried beef heart into pasta significantly increased coenzyme Q10 and protein content, which were unaltered by cooking, but also significantly changed physical attributes, including texture and color, of the fortified pasta products. Alterations of pasta texture, after partially replacing durum wheat flour with freeze-dried beef heart, might be due to the effects of lipid-protein interactions, protein structure, the starch network, hydrogen bonds, and cysteine thiol groups in pasta matrixes. Addition of freeze-dried beef heart to pasta might have the potential to increase the nutritional value of pasta while simultaneously increasing the value of beef heart, which currently is a by-product of beef manufacture.