# Mangó seeds may protect against deadly food bacteria - Radiocápsula RCP/CPR. [1]

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## Calificación:

Eurekalert - Life in the fruit bowl is no longer the pits, thanks to a University of Alberta researcher. Christina Engels has found a way to turn the throwaway kernels in mangós into a natural food preservative that could help prevent Listeriosis outbreaks like the one that killed 21 Canadians last year. The findings can also apply to other fruit seeds like grapes, said Engels, who conducted the research to earn her master's degree from the Department of Agricultural, Food and Nutritional Science at the U of A. The research is published in the latest Journal of Agricultural and Food Chemistry. Gallotannins, a plant component extracted from otherwise useless mangó kernels by Engels, have proven inhibitory effects against various strains of bacteria including Listeria, a potentially deadly pathogen that infected some packaged meats and caused an outbreak of disease in Canada in 2008. Gallotannins were extracted from mangó (Mangifera indica L.) kernels with aqueous acetone (80%, v/v) and purified using liquid?liquid extraction and two-step low-pressure liquid chromatography (LPLC) on Sephadex LH-20. Analytical high-performance liquid chromatography and mass spectrometry confirmed the presence of hydrolyzable tannins with a degree of galloylation ranging from 4 to 9 and additionally revealed the presence of deca-, undeca-, and dodeca-O-galloylglucose. Further purification using two-step semipreparative HPLC resulted in three pure hydrolyzable tannins, penta-, hexa-, and hepta-O-galloylglucose, with antibacterial activity, as evidenced from the agar spot and critical dilution assays. Although the growth of lactic acid bacteria was not inhibited, the proliferation of Gram-

positive food spoilage bacteria was prevented and the growth of Gram-negative Escherichia coli was reduced. Because bacterial growth could be restored by the addition of iron to the medium, this study strongly supports the view that the inhibitory effects of hydrolyzable tannins are due to their iron-complexing properties. Engels' research focuses on a way to recycle wood-like mangó kernels, which are usually thrown away or burned. "By processing the kernels for their tannins, businesses have a way to completely utilize all fruit parts and therefore increase their profit," she said. Currently, mangós are one of the main fruits marketed globally, ranked fifth in world production among the major fruit crops. Contact: Bev Betkowski beverly.betkowski@ualberta.ca [2] 780-492-3808 University of Alberta http://pubs.acs.org/doi/pdf/10.1021/jf901621m [3]

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