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Improved efficiency of tocotrienol extraction from fresh and processed latex

(Article)

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Abstract

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Vitamin E, mainly in the form of tocotrienols, was extracted from Hevea brasiliensis latex with organic solvents. The content of tocotrienols and a small amount of tocopherols recovered from the latex was determined using high performance liquid chromatography (HPLC). Gas chromatography-mass spectrometry (GC-MS) confirmed the identities of the tocotrienols and tocopherols forms that were present. Gamma-tocotrienol was the most abundant form of vitamin E in Hevea latex. The yield of tocotrienols (339 µg/g of latex) was significantly increased by the use of the detergent Triton X-100 in the extraction procedure. This method improves the extraction efficiency by 83%. Through drying of the organic fraction using anhydrous magnesium sulphate following phase separation was also advantageous in the extraction procedure. On the other hand, the presence of ammonia in latex suspension reduced extraction efficiency. Vitamin E was also found in the waste serum generated from the processing of deproteinised natural rubber (DPNR). Although the yield of vitamin E from this source was relatively low, there is a potential to modify the processing procedure to produce another value added end product i.e. latex vitamin E in addition to DPNR. COPYRIGHT © MALAYSIAN RUBBER BOARD.

Author keywords

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