# INOSITOLS: A COMMERCIALLY IMPORTANT SUGAR ALCOHOL FROM NATURAL RUBBER LATEX

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Gopalakrishnan, J., Thomas, M. and Jacob, J. (2008). Inositols: A commercially important sugar alcohol from natural rubber latex. *Natural Rubber Research*, 21(1&2): 130-133.

Besides rubber (*cis*-1, 4-poly isoprene), latex from *Hevea brasiliensis* is a rich repository of several important secondary metabolites. Among these inositols, particularly L- quebrachitol is the major group of sugar alcohol which has wide applications in pharmaceutical and medical research. In the present study, total inositol content in thirteen *Hevea* clones was determined. Inositol content was comparatively high in the clones RRII 105, RRII 5 and RRIM 703. The possibility of commercial exploitation of this high value secondary metabolite is being explored.

Key words: Inositols, L- quebrachitol, Natural rubber latex, Secondary metabolites.

The rubber tree (*Hevea brasiliensis)* is the main commercial source of natural rubber for the rubber industry. Rubber latex is a specialized form of cytoplasm containing suspension of rubber particles and non-rubber components in an aqueous medium. Latex contains 30 to 40 per cent rubber, and the remaining are non-rubber components, which are discarded as waste. The non-rubber components include water, carbohydrates, proteins, inorganic acids, lipids *etc.* (Smith, 1954; Lowe, 1961). Among the carbohydrates inositols, especially quebrachitol form a rich group of sugar alcohol.

Quebrachitol is the most abundant inositol present in rubber latex, which is a high value compound with several commercial applications (Anderson, 1972; d'Auzac *et al.*, 1989; Bealing, 1969). Quebrachitol is a substituted inositol with optical activity. The optical property enables it to be readily converted into various inositol derivatives of biological importance. Inositol and its derivatives have potential applications in pharmaceutical and medical research. With suitable chemical modifications, they are used in formulations of anti-cancer drugs, antibiotics and secondary messengers (Lau, 1993; 1996).

A chromatographic protocol was developed for L-quebrachitol isolation from the latex of *H. brasiliensis* (Jayasree *et al.*, 2007). As there is large extent of rubber plantation in South and South East Asia, the raw material for isolation of quebrachitol is abundantly available. In this study the total inositol in the latex of thirteen *H. brasiliensis* clones over three seasons was

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