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RECOVERY OF L- QUEBRACHITOL FROM DIFFERENT LATEX SERUM SOURCES OF *HEVEA BRASILIENSIS*

Jayasree Gopalakrishnan, Molly Thomas, Preenu Annie Abraham, K. Annamalainathan, R. Krishnakumar and James Jacob

Rubber Research Institute of India, Kottayam- 686 009, Kerala.

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Hevea latex contains several non-rubber components in addition to rubber particles. Among them L-quebrachitol (methyl inositol), a commercially important compound, is prominently present. Hence attempts were made for its isolation from different sources of latex serum. In the present study, latex serum of four clones obtained by four different extraction methods, *viz*. coagulation of latex with acetic acid, coagulation of latex with alcohol, centrifugation of latex and low temperature extraction, as well as the effluent of latex centrifuging factory were used for quebrachitol separation. The results showed that yield/ extraction rate of quebrachitol from natural rubber latex varied from clone to clone and with different methods of serum preparation. The highest recovery (1.4%) was obtained from the serum obtained by the latex centrifugation method in the clone RRII 430. Of the four serum sources used, serum from latex centrifugation gave the best results in all the clones. Among the four clones, RRII 430 gave the highest yield of quebrachitol followed by RRII 414, RRII 105 and RRIM 600 which had similar levels of extraction rates irrespective of the source of the serum. Recovery was the lowest (0.005%) in factory effluent which may be due to prolonged preservation of latex.

Keywords: Latex serum, Quebrachitol, Secondary metabolite

INTRODUCTION

Hevea brasiliensis is mainly cultivated as the major source of natural rubber. Apart from rubber, latex also contains inositols as secondary byproducts. Clonal differences were reported in total inositol content in the latex (Gopalakrishnan *et al.*, 2008). In *Hevea* latex, L-quebrachitol (methyl inositol) is the predominant inositol with small amounts of L-and myo-inositols ?????? • j?r s Ss j?r s Sr ? ? • ????? j?r ss R?? • ? Auzac and Jacob, 1989).

Inositols are cyclohexane hexols having six hydroxyl groups bonded on a cyclohexane nucleus. L-quebrachitol (1L-2-O-methyl-chiro-inositol) is a naturally occurring optically active inositol. The chemical structure of quebrachitol is shown in Figure 1. It is a high-value compound with several commercial applications and is mainly used in the pharmaceutical industry and in medical research (Lau, 1993; 1996; Deng and Deng, 1999). It has gained much attention because of its optical properties and also due to its various derivatives which

Correspondence: Jayasree Gopalakrishnan (Email: jayag@rubberboard.org.in)