A QUICK AND EASY METHOD FOR THE DETERMINATION OF DRY RUBBER CONTENT IN NATURAL RUBBER LATEX

Vinoth Thomas

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

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A simple, accurate and quick method for determining DRC in fresh and ammoniated field latex was developed and standardised. The new procedure uses ethyl alcohol (70%) or Medispirit (70% isopropyl alcohol) as the coagulant. To about 15 ml of the coagulant taken in a petri dish, approximately 10g of fresh field latex was added drop by drop and swirled till it coagulated into a mass. The instantly formed coagulum was pressed using a flat glass stopper. After washing and rolling, the thin and tender coagulum required only 90-120 min. drying at 80°C for obtaining constant weight. On the contrary, the standard procedure for DRC estimation using dilute acetic acid as coagulant took 1-2 h for coagulum formation and about 16 h for drying to constant weight. The easy instant coagulation of field latex using the new alcohol coagulant is the novelty of the method and can be easily adopted in the field. Hence, this new method is very useful for the estimation of dry rubber yield of experimental plants in the field in the clone evaluation trials or in other field experiments requiring yield assessment as well as in Group Processing Centres etc.

Key words: DRC estimation, Field latex, Instant coagulation, Latex coagulant

INTRODUCTION

Natural rubber (NR) latex is a colloidal dispersion of rubber hydrocarbon varying from 25-40 per cent rubber content, and 2-4 per cent non-rubber substances, dispersed in a serum (Cheaw, 1979; Nair, 2000). Proportion of the above substances in the latex varies depending on clone, season, age of the trees, agro-management practices, region, tapping system, *etc*. (Kuriakose, 1992). The DRC of latex is an important quality parameter as it is required to be determined accurately and rapidly for various stake holders *viz*. academicians, farmers and traders (Tillekeratne *et al*., 1989; Nair *et al*., 2012).

Different estimation methods are available for DRC based on specific gravity (Nadarajah and Muthukuda, 1963), specific heat (Harris *et al*., 1986), microwave attenuation (Khalid *et al*., 1989; Jayanthy and Sankaranarayanan, 2005), proton low resolution NMR (Gambhir *et al*., 1993), titration method (Kuriakose, 2003; Alex *et al*., 2003), capacitive transducer (Rejikumar *et al*., 2007) differential scanning calorimetry (Rejikumar and Philip, 2010) *etc*. The standard laboratory procedure for determining DRC involves coagulation of a known weight of latex with dilute organic acid, heating over water bath, filtering, washing, sheeting and drying the coagulum

Correspondence: Vinoth Thomas (Email: vt@rubberboard.org.in)