



COAGULATION OF NR LATEX USING FERMENTED COCONUT WATER

34

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The use of fermented coconut water as a cost effective, efficient and ecofriendly coagulant for field latex is described. The coconut water (300 ml) collected from coconut processing centre and fermented by keeping it in closed container for 10 days was sufficient to coagulate 1.5 l of undiluted field latex. Complete coagulation took place 30 minutes after the addition of the coagulant. The quantity of coconut water required for coagulating the latex could be reduced by increasing the fermentation time from 10 to 20 and 30 days. The coagulum was then processed into RSS 4 sheet following standard practice.

INTRODUCTION

More than 70 per cent of the natural rubber (NR) produced in India is processed as sheet rubber. Sheet rubber is prepared by coagulating field latex using organic acids and the coagulum is pressed into a sheet using rollers and dried to remove the remaining water. Diluted formic acid and acetic acid are widely used by the farmers as coagulating agent. In order to reduce the cost of processing, cheaper coagulating agents like diluted sulphuric acid and sulphamic acid have been tried earlier (Sebastian, *et al.*, 1982; George, *et al.*, 1992). In this paper the use of fermented coconut water as a cheap and eco-friendly coagulating agent for field latex is reported.

OBSERVATIONS

The coconut water was collected from coconut processing centre and fermented by keeping it in closed containers for several days. The field latex collected from the farm was sieved and bulked in the usual manner. Approximately 1.5 L of the latex without dilution was transferred to the aluminium

pan. Coconut water (300ml) fermented for 10 days was added to the latex and mixed thoroughly with it. The froth was removed. Coagulation of the latex took place in 30 minutes. It was observed that the amount of coconut water could be reduced to 200 ml and 100 ml if it was fermented for 20 days and 30 days respectively. Complete coagulation of the latex was observed overnight when 300 ml. of fresh coconut water was used. Yeast could be used to hasten the fermentation of the coconut water.

Thirty minutes after the coagulation, the coagulum could be pressed into sheet. The wet sheet was dried to RSS 4 in a smoke house. Thus fermented coconut water could be used as a cost-effective, efficient and ecofriendly coagulating agent for natural rubber latex.

CONCLUSION

Fermented coconut water could be used as a cost effective and environment friendly coagulating agent for NR latex. 300 ml of coconut water fermented for ten days was sufficient to coagulate 1.5L of undiluted field



latex. The amount of fermented coconut water required for coagulating the latex reduced by increasing the fermentation time

of the coconut water. Coagulation in fast and sheets could be made thirty minutes after the addition of coconut water.

REFERENCES

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