RESEARCH ARTICLE

SUSTAINABLE EXTRACTION OF BIOPOLYMER USING VARIOUS GUM ENHANCER IN ROHINA (*SOYMIDA FEBRIFUGA* ROXB.) TREE FROM MUNGELI REGION OF CHHATTISGARH

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Abstract: Gums are natural substances that exude *via* process of gummosis from trees as a response to injury, and collected by tapping, picking, or cutting the tree. *Soymida febrifuga* (Roxb.) is a large Meliaceous tree distributed mainly in the tropical areas of Asia and one of the most popular traditional medicines in India. A clear gum from the bark forms good adhesive mucilage. The commercial tapping of *Soymida febrifuga* is done by blazing, peeling, or by making deep cuts at the base of the bole using an axe. The harvesting methods currently used are traditional and injurious due to which often obtained inferior quality of products. Hence, the study was undertaken in ICAR Network Project to develop the scientific tapping technique for sustainable harvesting in major gum producing tree of Chhattisgarh state to enhance the livelihood of the rural areas as well as to protect the plant and generate the revenue of the government. The various gum Enhancer are used for tapping purpose, the experiment was laid out in three replications and five treatments *i.e.* Control (distilled water), Ethephon, H_2SO_4, ethephon with H_2SO_4, HCl was used for potential gum exudation. The ethephon with H_2SO_4 was found significantly effective for maximum gum. Ethephon was found useful in inducing gummosis and also the physiochemical properties of exudated gums were investigated pH, solubility (cold water, Hot water, ethanol, acetone) viscosity, protein (1.78%), Fat (%) was obtained in gum of chemical method (ethephon with H_2SO_4) as compared to other gum enhancers.

Keywords: Ethephon, Gum enhancer, H_2SO_4, HCl, *Soymida febrifuga*

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