Moringa (*Moringa oleifera*) Gum Tapping Blazer

(IINRG – Gum Tapping Blazer - 75)

Network Project
on
Harvesting, Processing and Value Addition
of Natural Resins and Gums

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Introduction

Natural exudate gums are derived from the selected tree species, having ample importance as Non-Timber Forest Produce, used in various industries due to their non-toxic, biodegradable and eco-friendly nature. Natural gum offers abundant opportunities for the development of high-value products and industrial applications and is a promising area for income generation and small-scale entrepreneurship development for unemployed rural youths in aspirational districts. Generally, tribals collect natural gums by adopting traditional tapping methods, and the benefit mainly depends on the quality of the produce. Gum production takes place after blaze development and stripping off the bark from the tree trunk. The quantity of gum production varies from tree to tree, depending upon its genetic character and climatic conditions. *Moringa* gum is used to treat various types of diseases. Therefore, there is tremendous potential for gum tapping from *Moringa oleifera* tree to enhance gum production (Fig. 1).

Fig. 1: *Moringa oleifera* trees

Moringa Gum Tapping Blazer

Traditional gum tapping tools used by forest dwellers for gum production from selected tree species are location-specific, brutal, less efficient, time -consuming and injurious to the trees. Thus, a blazer was developed to maintain the uniform shape, size and depth of blaze on the tree trunk for *moringa* gum tapping from *Moringa oleifera* tree (Fig. 2). Developed blazer is user-friendly, and mainly consists of three major parts *i.e.* working blade, depth control mechanism and handle. Semi-circular blazes with sharp edges, desired depth and size can easily be developed on the trunk of respective trees with reduced manpower requirement, drudgery and time utilizing developed blazer.

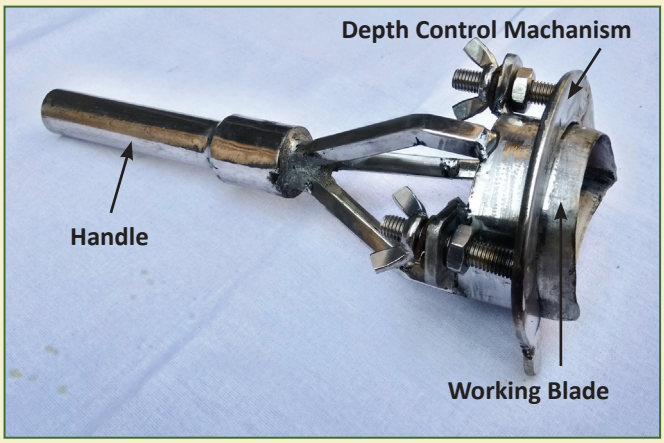

Fig. 2: *Moringa* gum tapping blazer

Working blade

Working blade of the developed blazer is made in semi-circular shape to fit the blade properly on the tree trunk during blaze development. Front end of the working blade has been sharpened to make sharp edged blaze. Main body of the working blade has the provision for fixing the depth control mechanism to maintain uniform depth on the tree trunk for *moringa* gum tapping.

Depth control mechanism

The blazer developed has a depth control mechanism as an integral part of the working blade and is designed in such a way that blazes can be easily developed up to the desired depth based on the tree bark thickness.

Handle

Handle of the developed blazer is made of piece of cylindrical rod, knurled to make the surface rough for slip-free operation and easy handling during the blaze development. Three square rods are mounted at one end of the handle to fix the handle with working blade as an integral part of the blazer.

Methodology of blaze development

The depth control mechanism provided in the developed blazer is properly adjusted on the working blade based on bark thickness of *Moringa oleifera* trees. Thereafter, sharp working blade of the blazer is placed on the tree trunk and hammered thoroughly up to the bark thickness (Fig. 3 and 4). When the working blade attains desired depth on tree trunk, handle of the blazer is gently hammered from all directions to remove cut bark from the trunk. Blazes made on the tree trunk utilizing developed blazer start gum oozing within 4-5 hours (Fig. 5).

Fig. 3: Blaze development using gum tapping blazer

Fig. 4: Developed blaze

Fig. 5: Gum exudation from developed blaze

Benefits

- Blazer is small in size and light weight as well as user friendly.
- Semi-circular curved working blade and depth control mechanism of the blazer matches properly with the circumference of the related trees.
- Fixed size and sharp edge blazes can be developed easily within minutes without any problem with enhanced productivity of gum tappers, reduced manpower requirement, drudgery and time.

Specifications

Weight, kg	1.5
Manpower requirement	01
Time requirement for blaze development, minute	~ 01
Enhancement in productivity of gum tappers	~ 02 times*
Capacity, blaze/day	~ 100

*Considering rest period and time taken in moving from one tree to other

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