
EXERCISE 5 DEMONSTRATION OF PROPOLIS AND BEE VENOM EXTRACTION

Structure

5.0 Introduction

Objectives

5.1 Procedure

- Principle
- Requirements
- Steps

5.2 Observations and Result

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5.0 INTRODUCTION

Bee venom and propolis are another two important by products of beekeeping other than honey and wax. These products are now getting attention in the market due to their multifaceted uses. Now many beekeepers have started extracting these two products. The extraction of these products requires skill and special equipment. More detailed information about their extraction and uses have been given in the theory part of the course.

Objectives

After doing this exercise, you will be in a position to:

- Collect propolis and bee venom, and
- Store them and market.

5.1 PROCEDURE

Principle

Collection of bee venom and propolis require skills. Both are yielded in low quantities.

Requirements

- Propolis,
- Petri plates,
- freezer

Steps

1) Venom collection

Remove the debris and excessive wax from propolis. Keep it into freezes for overnight and break it into small pieces. Pull the piece into thin sheet in order to increase surface area between propolis and solvent to promote dissolution.

Extraction of bee venom is done by the use of electric shock. The various trap design stimulate bees by applying a mild electric shock through wires above the collecting tray. The trays placed either between the bottom board

and brood chamber at the hive entrance or in a special box between supers and the hive cover, when shocked, bees sting the surface on which they are walking. In some traps this may be a glass plate or a thin (0.13mm thick) plastic membrane nylon taffeta or silicon rubber under which a collecting plate or absorbent tissue receives the venom. Venom dries rapidly on glass plates and can be scrapped off with a razor blade or knife. Absorbent tissue is washed in distilled water to extract the venom, which then should be freeze-dried collection on glass in generally easier and produces a product which is easier to store & process. During handling of dry bee venom, protective gloves, glasses and dust masks should be used to avoid any contact with or inhalation of the highly concentrated venom. Only 1 gm of venom could be collected from 20 bee colonies in a period of a hour or two. Cycle is 15 min. Stimulation at interval of 3 days repeated after 2-3 weeks. Bees remain disturbed for up to a week. Production is 0.5 to 1.0µl per bees and less than 0.1 µg of dry venom.

2) Storage

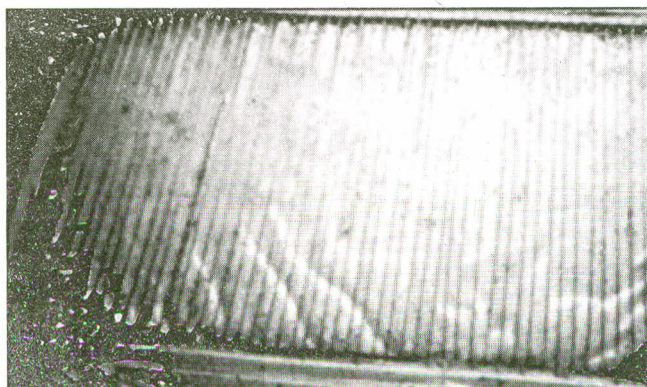
Dried bee venom should be stored refrigerated or preferably frozen and it should always be kept in dark bottles in the dark. Dried bee venom can be kept frozen for several month. Liquid Venom and diluted venom can be stored for similar periods if maintained in well sealed dark glass containers.



(a)

(b)

(a) A honeybee worker, stinging the human skin, is unable to withdraw its sting lancets because of the fine barbs (b) unique to the honeybee sting.



Close up of collecting device of bee venom

5.2 OBSERVATIONS AND RESULT

After doing this exercise, you will get bee venom and propolis from the hives.

5.3 PRECAUTIONS

Please adhere to the following precautions:

- Get proper protective measures while performing this exercise
- Do not intimidate the bees

