
EXPERIMENT 2 ESTIMATION OF MOISTURE CONTENT OF MULBERRY LEAVES FOR CHAWKI REARING

Structure

- 2.1 Introduction
 - Objective
- 2.2 Experiment
 - Principle
 - Requirements
 - Procedure
 - Observations
 - Calculations
 - Results
- 2.3 Precautions

2.1 INTRODUCTION

It is essential to feed the quality mulberry leaves in optimum quantity for the healthy growth of silkworms to produce quality cocoons. The young age (chawki) silkworms require comparatively tender, soft and succulent leaves having higher moisture content (75-80%), less starch and fibre.

Objective

After studying and performing this experiment, you should be able to:

- estimate moisture content of mulberry leaves.

2.2 EXPERIMENT

2.2.1 Principle

Water is indispensable element for silkworm growth and development, as it is required for transportation of minerals in the body. The water content in the mulberry leaves ranges from 75-80%, which is variable according to environmental conditions and was found to have intimate relation with ingestion as well as digestion. In view of this, production of mulberry leaves with required water content as well as feeding the same during different stages of development are of vital importance for successful silkworm rearing.

2.2.2 Requirements

- Tender Mulberry Leaves

- Electronic Weighing Balance
- Hot Air Oven
- Thread
- Plastic Cover
- Chopping Board
- Chopping Knife

2.2.3 Procedure

- Collect 20 tender succulent leaves (1 - 2 leaves just below the largest glossy leaf) into the plastic cover.
- Cut the leaf petiole with the help of chopping knife, bundle the leaves with thread.
- Take the initial weight using electronic balance.
- Set the Hot Air Oven at 60 °C, keep the weighed leaf sample inside the oven for 5 - 6 hours.
- Take the final weight.

2.2.4 Observations

Initial weight	-	x gm
Final weight	-	y gm

2.2.5 Calculations

$$\begin{aligned}\text{Moisture Content (\%)} &= \frac{\text{Initial weight} - \text{Final weight}}{\text{Initial weight}} \times 100 \\ &= \frac{x - y}{x} \times 100\end{aligned}$$

2.2.6 Results

The moisture content of the given sample is _____%.

2.3 PRECAUTIONS

- Collect the leaf sample randomly.
- Take final weight after getting constant weight.