Ex. No. 7: Estimation of Moisture Per Cent Age and Moisture Retention Capacity of Mulberry Leaf.

Aim: To determine the moisture per cent age and moisture retention capacity of the given mulberry varieties.

Principle: Water is one of the important constituents of mulberry leaves and it plays an important role in silkworm crop production. Moisture content varies with variety, season, age of the plant and preservation techniques followed. It is usually expressed in terms of per cent age.

Procedure: Collect the mulberry leaf samples from garden by plucking the lateral branches as a whole. Separate the individual types of leaves as tender (for chawki worms) and matured (for late age worms) leaves. Record the initial weight of the leaves (W1) and preserve them under standard conditions for 12 or 24 hours. After this preservation, record the second weight of leaves (W2). After 12 or 24 hours of preservation, keep the same mulberry leaves in an oven at 100 ºC for 2-3 hours or until complete drying of mulberry leaves. After drying, record the weight of dried mulberry leaves (W3) as final weight. From this observations calculate the per cent age of water in mulberry leaves, per cent age of water loss and moisture retention capacity of the different mulberry varieties using the following formulae.

Observations and Calculations

Mulberry Variety	Fresh Weight (W1)	Second Weight (W2)	Final Weight (W3)	Moisture %	Moisture loss %	Moisture Retention Capacity %
M_5 Tender						
M_5 Matured						
Mysore Local Tender						
Mysore Local Matured						

Moisture % = $\dfrac{W1 - W3 \times 100}{W1}$

Moisture loss % = $\dfrac{W1 - W2 \times 100}{W1}$

W1 - Fresh weight of leaves

W2 - Second weight of leaves

W3 - Dried weight of leaves

Moisture Retention Capacity = 100 – Moisture loss %

Fresh weight is considered as 100%