Experiment No. 8: Degumming of Raw silk/Cocoon Shell.

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Aim: To find out sericin content in the given raw silk sample.

Introduction: Since the natural silk possesses colouring matter, wax, fat and inorganic materials and such materials should be removed from the raw silk yarn. Otherwise it leads to difficulties in dyeing.

Requirements: Heater, vessel, glass rod, thermometer, balance, glass wares, neutral soap flakes, soda ash *etc*.,

Procedure:

1. Weigh the given raw silk sample and note down the weight as W_1 g.

2. Prepare the degumming bath in the ratio of 1:40 (1portion is raw silk and 40 is distilled water/ soft water)

3. Add neutral soap flakes and soda ash at the rate of 7g/l and 1g/l respectively and keep it for heating.

4. Raise the temperature to boiling level and introduce the raw silk and treat for 1 h at this temperature. Constant stirring of raw silk is necessary while working.

5. After an hour take out the material, wash it in running water thoroughly to remove the soap and soda.

6. Again keep the material in soft water and give a hot wash for 30 min to remove the traces of soap and soda.

7. After hot wash, wash the silk in running water thoroughly and dry at room temperature under shade. After complete drying, weigh the degummed silk and note down the weight as W_2 g.

8. Find out the degumming loss by using the following formulae.

Degumming loss in % = $\dfrac{W_1-W_2 \times 100}{W_1}$ = _____ %.

Fibroin per cent age= 100 – Sericin per cent age= ____ %.

Report: The sericin and fibroin % in the given raw silk material is _____ and _____ % respectively.

Observations and Calculations:

Weight of the raw silk = _____ (W_1) gm.

Weight of the degummed silk = _____ (W_2) gm.

Liquor ratio 1:40 *i.e.*, W_1 X 40 = ---- ml of water (a)

Soap 7gm/l = $\dfrac{7 \text{ X a}}{1000}$ = ___ gm.

Soda 1gm/l = $\dfrac{1 \text{ X a}}{1000}$ = ___ gm.

Degumming loss = $\dfrac{W_1\text{-}W_2 \text{ X}100}{W_1}$ = ____ %.

Fibroin per cent age= 100 – Sericin per cent age = ___ %.