

Experiment No. 3. Determination of reeling water pH

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Aim: To determine the pH of the reeling water samples using pH paper and pH meter.

Introduction: pH of water indicates the hydrogen ion concentration in water. It is expressed as negative logarithm of hydrogen ion concentration in moles/liter at given temperature. The pH scale extends from zero (very acidic) to 14 (very alkaline) with 7 corresponding to exact neutrality at 25 °C. Ph can be measured calorimetrically or electrometrically.

Colorimetric method is used only for rough estimation. It can be done by using pH paper. The hydrogen electrode is absolute standard for the measurement of pH. The standard pH required for cocoon reeling 6.9 ± 0.3 (B.H. Kim, 1983)

Requirements: Standard buffer solutions, pH paper, pH meter, beakers, thermometer and reeling water samples.

Procedure using pH paper:

1. Dip the pH paper in the sample.
2. Compare the colour with that of colour given on the wrapper of pH paper booklet.
3. Note down the pH of the sample along with its temperature.

Procedure using pH meter:

1. Follow the manufacturer's operating instructions.
2. Dip the electrode in the standard buffer solution of known pH.
3. Switch on the power supply and standardize the instrument using the calibration knob.
4. After calibrating again, wash the electrode and dip in the standard buffer solution of pH 7. Note down the reading; if it is 7, the instrument is calibrated. If not calibrate it again.
5. Take the reeling water sample whose pH is to be determined in a beaker and adjust the temperature knob in such a way that the temperature of the solution as that in dial.
6. The reading indicated the pH of the water.
7. Record the reading and wash the electrode with distilled water for second reeling water sample.

Report: Of the given water samples, sample number __ is suitable for cocoon cooking and reeling.

Observations:

Water Sample	pH	
	pH Paper	pH Meter
1. Bore well water		
2. Cauvery Water		
3. Distilled Water		